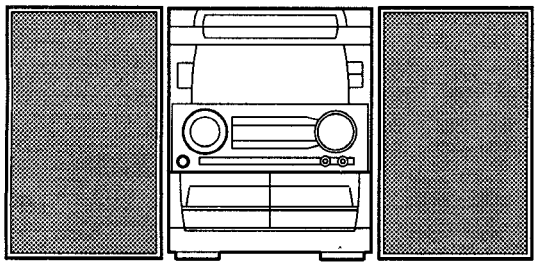
aiwa

aiwa SERVICE

NSX-MT920

SERVICE MANUAL



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 4ZG-1 Z3DSHNM
- TYPE : U

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-MT920	CX-NMT920	SX-NA902 SX-R275 SX-C605	RC-7AS09

- If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-983-249-30T.

S/M Code No. 09-985-254-8FE

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SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output	**Front** 100 W + 100 W (50 Hz – 20 kHz, T.H.D. less than 1%, 6 ohms) **Rear (Surround)** 33 W + 33 W (50Hz – 20 kHz, T.H.D. less than 1%, 8 ohms) **Center** 33 W (50Hz – 20 kHz,T.H.D. less than 1%, 8 ohms)
Total harmonic distortion	0.1% (90 W, 1 kHz, 6 ohms, DIN AUDIO/Front)
Inputs	VIDEO/AUX : 210 mV(adjustable) MD : 210mV (adjustable) MIC1, MIC2 : 1.4mV (10 kohms) 5.1 CH INPUT FRONT (L,R): 400 mV REAR (L,R): 400 mV CENTER: 400 mV SUB WOOFER: 400 mV
Outputs	LINE OUT: 280mV SUB WOOFER: 1V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 8 ohms to 16 ohms CENTER SPEAKER: accept speakers of 8 ohms or more PHONES (stereo jack): accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape : 50 Hz – 16000 Hz Normal tape : 50 Hz – 15000 Hz
Signal-to-noise ratio	60 dB (Dobly B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback head x 1/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system> SX–NA902

Cabinet type	3 way, basss reflex (magnetic shielded type)
Speakers	Woofer : 160 mm ($6^3/_8$ in.) cone type Tweeter : 80 mm ($3^1/_4$ in.) cone type Super tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	240 x 324 x 283mm ($9^1/_2$ X $12^7/_8$ X $11^1/_4$ in.)
Weight	5.2 kg (11 lbs 7 oz.)

<General>

Power requirements	120 V AC, 60 Hz
Power consumption	185 W
Dimensions of main unit	260 x 329 x 369 mm ($10^1/_4$ X 13 X $14^5/_8$ in.)
Weight	11.2 kg (24 lbs 11 oz.)

- Design and specifications are subject to change without notice.

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  Under license from BBE Sound,Inc.

- Dolby NR / DOLBY PRO LOGIC
  Manufactured under license from Dolby Laboratories Licensing Corporation.
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NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, the secondary defect can occur.
In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

① Remove the AC power cord.
② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
⑤ Check that voltage across C101 and C102 has decreased 1 V or less using a multimeter or an oscilloscope.

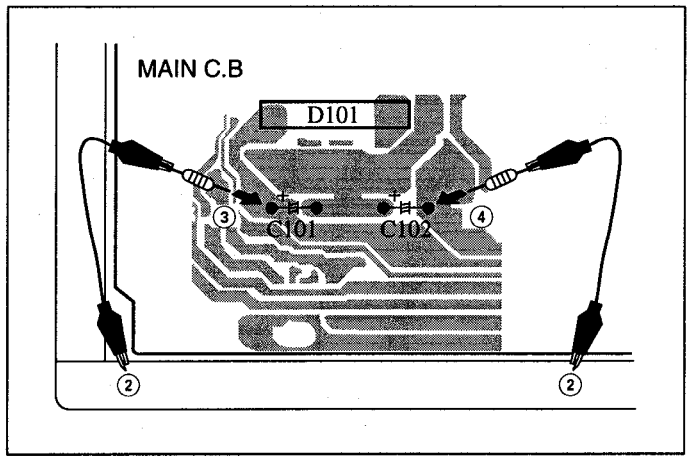


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is "H", the MICROCOMPUTER is judged to be operating correctly. When this terminal is "L", the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.
When the MICROCOMPUTER is not defective, the HOLD terminal can also go "L" when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to "L".

- Good or no good judgement of the MICROCOMPUTER

① Turn on the AC main power.
② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the "H" level or not.
③ When the HOLD terminal is "L" level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

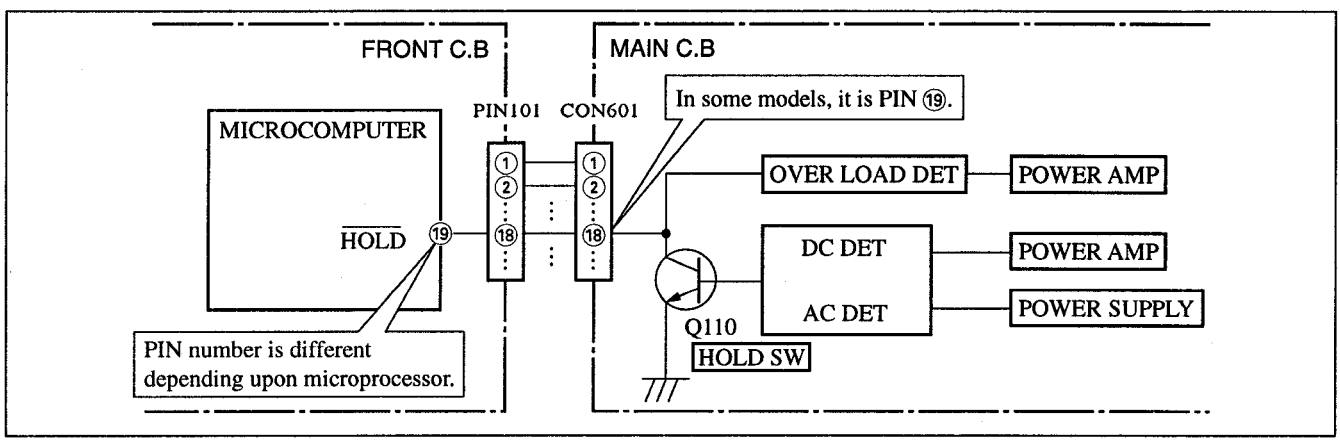


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can leads to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

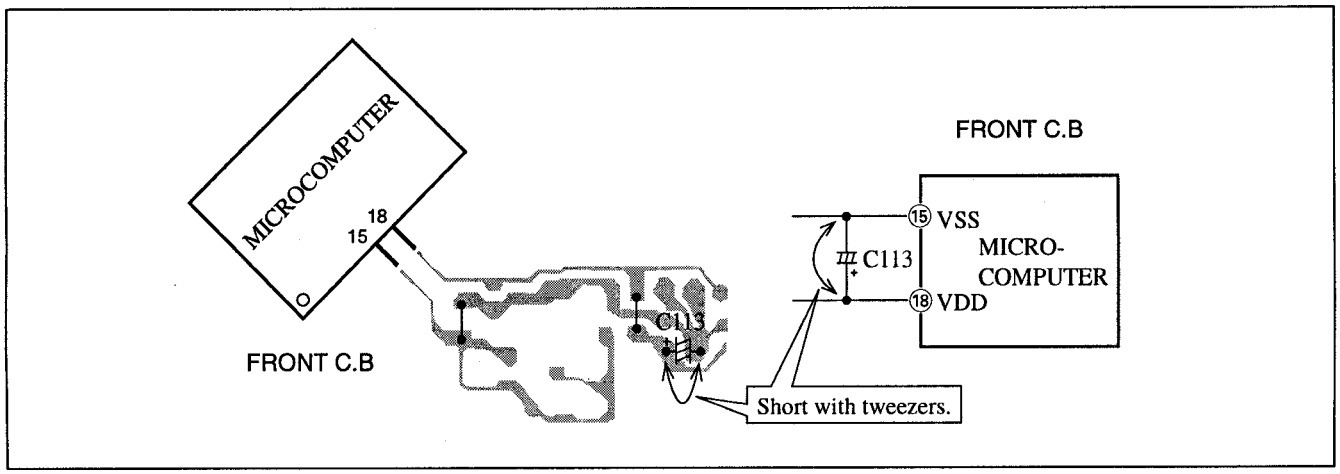


Fig-2-2

② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

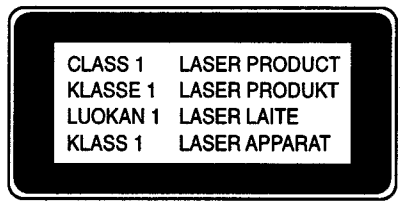
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



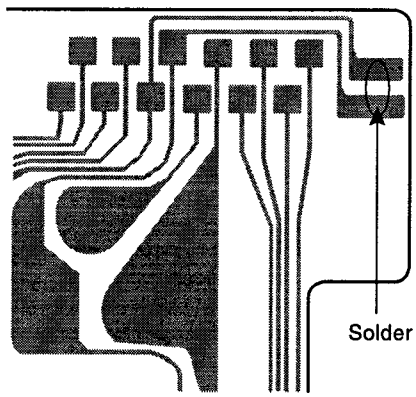
Precaution to replace Optical block

(KSS – 213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

PICK-UP Assy P.C.B



ELECTRICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	88-NF5-615-040		C-IC,MSM6654A-521GS-KR1
	88-NF7-750-010		C-IC,LC866560W-5H26
	87-070-083-010		IC,GP1U281X
	87-A20-783-040		C-IC,BA7762AFS
	87-A20-083-010		IC,BA3835S
	87-017-914-010		IC,BU4094BCP
	87-A20-804-040		C-IC,NJM2152M
	87-017-915-080		IC,BU4094BCF
	87-A20-954-040		C-IC,M62445FP-601
	87-017-888-080		IC,NJM4558MD
	86-NFZ-655-010		IC,LC72131D(Z)
	87-A20-438-010		IC,LA1837
	87-020-454-010		IC,DN6851
	87-A20-355-010		IC,CXA1553P
	87-070-289-040		C-IC,BU2092F
	87-017-917-080		C-IC,BU4066BCF
	87-017-726-080		C-IC,BU4052BCF
	87-A20-715-010		IC,M62439SP
	87-A20-853-010		C-IC,M62463FP
TRANSISTOR			
	87-A30-087-080		C-FET,2SK2158
	89-213-702-010		TR,2SB1370 (1.8W)
	87-026-263-080		C-TR,RN1410
	87-A30-071-080		C-TR,RT1N 144C
	87-026-610-080		TR,KTC3198GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-196-080		TR,2SC4115SRS
	87-A30-075-080		C-TR,2SA1235F
	87-026-609-080		TR,KTA1266GR
	87-A30-107-070		C-TR,CMBT5401
	87-A30-190-080		TR,CC5551
	87-A30-097-010		TR,FN 1016
	87-A30-098-010		TR,FP 1016
	87-A30-106-070		C-TR,CMBT5551
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-086-070		C-TR,CSD1306E
	89-112-965-080		TR,2SA1296 (0.75W)
	87-A30-085-070		C-TR,CSA1362GR
	89-327-143-080		TR,2SC2714 (0.1W)
	87-026-463-080		TR,2SA933SRS
	87-A30-162-010		FET,2SK2937
	87-A30-108-010		TR,2SB1626
	87-A30-109-010		TR,2SD2495
	87-026-580-080		C-TR,DTA123JK
	87-A30-221-040		C-TR,DTA114WK
	87-A30-214-010		TR,2SB1344
	87-A30-215-010		TR,2SD2025
	87-A30-104-080		C-TR,RT1N441C
	87-026-223-080		C-TR,DTC143TK
DIODE			
	87-A40-470-080		DIODE,1SS254
	87-017-654-060		DIODE,GBU6JL 6131
	87-A40-269-080		C-DIODE,MC2836
	87-A40-509-080		ZENER,MTZJ6.8C
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-270-080		C-DIODE,MC2838
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-341-080		ZENER,MTZJ 36 A
	87-A40-004-080		ZENER,MTZJ16A
	87-A40-488-080		DIODE,1SS244
	87-A40-345-080		ZENER,MTZJ10C
	87-A40-184-090		DIODE,RF34
	87-A40-002-080		ZENER,MTZJ5.1C
	87-A40-438-080		ZENER,MTZJ4.7A
	87-A40-234-080		ZENER,MTZJ5.6A
	87-A40-116-060		DIODE,RS403L-B-D-51
	87-A40-442-080		ZENER,MTZJ9.1A
	87-A40-348-080		ZENER,MTZJ3.3A
MAIN C.B			
C103	87-016-658-090		CAP,E 4700-35 SMG
C104	87-016-658-090		CAP,E 4700-35 SMG
C105	87-012-368-080		C-CAP,S 0.1-50 F
C106	87-012-368-080		C-CAP,S 0.1-50 F
C107	87-012-368-080		C-CAP,S 0.1-50 F
C108	87-012-368-080		C-CAP,S 0.1-50 F
C109	87-010-196-080		CHIP CAPACITOR,0.1-25
C110	87-010-196-080		CHIP CAPACITOR,0.1-25
C111	87-010-196-080		CHIP CAPACITOR,0.1-25
C112	87-010-196-080		CHIP CAPACITOR,0.1-25
C113	87-010-247-080		CAP, ELECT 100-50V
C114	87-010-385-080		CAP, ELECT 220-25V
C115	87-010-385-080		CAP, ELECT 220-25V
C116	87-010-247-080		CAP, ELECT 100-50V
C117	87-010-430-080		CAP, ELECT 100-63
C118	87-010-263-080		CAP, ELECT 100-10V
C119	87-010-260-080		CAP, ELECT 47-25V
C120	87-010-403-080		CAP, ELECT 3.3-50V
C121	87-012-140-080		CAP 470P
C122	87-010-263-080		CAP, ELECT 100-10V
C123	87-010-247-080		CAP, ELECT 100-50V
C124	87-010-112-080		CAP, ELECT 100-16V
C125	87-010-235-080		CAP,E 470-16 SME
C151	87-016-520-090		CAP,E 3300-65
C152	87-016-520-090		CAP,E 3300-65
C209	87-010-546-080		CAP, ELECT 0.33-50V
C210	87-010-546-080		CAP, ELECT 0.33-50V
C211	87-010-183-080		C-CAP, S 2700P-50 B
C212	87-010-183-080		C-CAP, S 2700P-50 B
C213	87-010-186-080		CAP, CHIP 4700P
C214	87-010-186-080		CAP, CHIP 4700P
C215	87-010-403-080		CAP, ELECT 3.3-50V
C216	87-010-403-080		CAP, ELECT 3.3-50V
C217	87-010-260-080		CAP, ELECT 47-25V
C218	87-010-260-080		CAP, ELECT 47-25V
C223	87-010-197-080		CAP,CHIP 0.01 DM
C224	87-010-197-080		CAP,CHIP 0.01 DM
C229	87-A10-812-080		C-CAP,S 220P-200 J CH
C230	87-A10-812-080		C-CAP,S 220P-200 J CH
C231	87-010-178-080		CAP, CHIP 1000P B
C232	87-010-178-080		CAP, CHIP 1000P B
C233	87-010-544-080		CAP, ELECT 0.1-50V
C234	87-010-544-080		CAP, ELECT 0.1-50V
C235	87-010-196-080		CHIP CAPACITOR,0.1-25
C237	87-012-368-080		C-CAP,S 0.1-50 F
C238	87-012-368-080		C-CAP,S 0.1-50 F
C239	87-012-368-080		C-CAP,S 0.1-50 F
C240	87-012-368-080		C-CAP,S 0.1-50 F
C280	87-010-188-080		CAP, CHIP 6800P
C298	87-010-196-080		CHIP CAPACITOR,0.1-25
C301	87-010-318-080		C-CAP,S 47P-50 CH
C302	87-010-318-080		C-CAP,S 47P-50 CH
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C305	87-012-145-080		CAP, CHIP S 270P CH
C306	87-012-145-080		CAP, CHIP S 270P CH
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C311	87-010-198-080		CAP, CHIP 0.022
C312	87-010-198-080		CAP, CHIP 0.022
C313	87-010-179-080		CAP,CHIP S B1200P
C314	87-010-179-080		CAP,CHIP S B1200P
C315	87-010-178-080		CHIP CAP 1000P

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C316	87-010-178-080		CHIP CAP 1000P
C317	87-012-142-080		CAP,S 0.33-16
C318	87-012-142-080		CAP,S 0.33-16
C319	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C320	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C321	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C322	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		CHIP CAPACITOR,0.1-25
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		CHIP CAPACITOR,0.1-25
C339	87-010-196-080		CHIP CAPACITOR,0.1-25
C340	87-010-196-080		CHIP CAPACITOR,0.1-25
C351	87-012-140-080		CAP 470P
C352	87-012-140-080		CAP 470P
C354	87-010-175-080		CAP 560P
C355	87-012-349-080		C-CAP,S 1000P-50 CH
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		CAP, CHIP 0.01 DM
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C371	87-010-177-080		C-CAP,S 820P-50 SL
C372	87-010-177-080		C-CAP,S 820P-50 SL
C373	87-010-179-080		CAP, CHIP S B1200P
C374	87-010-179-080		CAP, CHIP S B1200P
C375	87-010-545-080		CAP, ELECT 0.22-50V
C376	87-010-545-080		CAP, ELECT 0.22-50V
C378	87-010-196-080		CHIP CAPACITOR,0.1-25
C381	87-010-197-080		CAP, CHIP 0.01 DM
C382	87-010-318-080		C-CAP,S 47P-50 CH
C383	87-010-197-080		CAP, CHIP 0.01 DM
C384	87-010-402-080		CAP, ELECT 2.2-50V
C385	87-010-184-080		CHIP CAPACITOR 3300P (K)
C386	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-010-401-080		CAP, ELECT 1-50V
C402	87-010-401-080		CAP, ELECT 1-50V
C403	87-010-182-080		C-CAP,S 2200P-50 B
C404	87-010-182-080		C-CAP,S 2200P-50 B
C405	87-010-193-080		CHIP CAPACITOR,0.033
C406	87-010-193-080		CHIP CAPACITOR,0.033
C407	87-010-405-080		CAP, ELECT 10-50V
C408	87-010-405-080		CAP, ELECT 10-50V
C409	87-010-380-080		CAP, ELECT 47-16V
C410	87-010-380-080		CAP, ELECT 47-16V
C411	87-010-405-080		CAP, ELECT 10-50V
C412	87-010-112-080		CAP, ELECT 100-16V
C415	87-010-184-080		CHIP CAPACITOR,3300P (K)
C416	87-010-184-080		CHIP CAPACITOR,3300P (K)
C457	87-010-400-080		CAP, ELECT 0.47-50V
C458	87-010-400-080		CAP, ELECT 0.47-50V
C516	87-010-196-080		CHIP CAPACITOR,0.1-25
C551	87-010-401-080		CAP, ELECT 1-50V
C552	87-010-263-080		CAP, ELECT 100-10V
C553	87-010-380-080		CAP, ELECT 47-16V
C601	87-010-180-080		C-CER 1500P
C602	87-010-180-080		C-CER 1500P
C613	87-016-081-080		C-CAP,S 0.1-16 RK
C614	87-016-081-080		C-CAP,S 0.1-16 RK
C619	87-010-185-080		C-CAP,S 3900P-50 B
C620	87-010-185-080		C-CAP,S 3900P-50 B
C621	87-010-401-080		CAP, ELECT 1-50V
C622	87-010-401-080		CAP, ELECT 1-50V
C625	87-010-405-080		CAP, ELECT 10-50V
C626	87-010-405-080		CAP, ELECT 10-50V
C629	87-010-405-080		CAP, ELECT 10-50V
C630	87-010-213-080		CAP, CHIP 0.015-25 KB GRM
C631	87-010-992-080		CHIP-CAP,S 0.047-25B
C632	87-010-263-080		CAP, ELECT 100-10V
C633	87-010-263-080		CAP, ELECT 100-10V
C634	87-010-196-080		CHIP CAPACITOR,0.1-25
C635	87-010-196-080		CHIP CAPACITOR,0.1-25
C636	87-010-194-080		CAP, CHIP 0.047
C637	87-010-183-080		C-CAP,S 2700P-50 B
C641	87-010-196-080		CHIP CAPACITOR,0.1-25
C667	87-010-196-080		CHIP CAPACITOR,0.1-25
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-010-197-080		CAP, CHIP 0.01 DM
C704	87-010-197-080		CAP, CHIP 0.01 DM
C709	87-010-322-080		C-CAP,S 100P-50 CH
C711	87-010-263-080		CAP, ELECT 100-10V
C712	87-010-196-080		CHIP CAPACITOR,0.1-25
C713	87-010-197-080		CAP, CHIP 0.01 DM
C714	87-010-197-080		CAP, CHIP 0.01 DM
C721	87-010-312-080		C-CAP,S 15P-50 CH
C722	87-010-312-080		C-CAP,S 15P-50 CH
C723	87-010-178-080		CHIP CAP 1000P
C725	87-010-178-080		CHIP CAP 1000P
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C755	87-010-197-080		CAP, CHIP 0.01 DM
C756	87-010-197-080		CAP, CHIP 0.01 DM
C757	87-010-318-080		C-CAP,S 47P-50 CH
C758	87-010-149-080		C-CAP,S 5P-50 CH
C761	87-010-196-080		CHIP CAPACITOR,0.1-25
C762	87-010-197-080		CAP, CHIP 0.01 DM
C763	87-010-194-080		CAP, CHIP 0.047
C764	87-010-319-080		C-CAP,S 56P-50 CH
C765	87-010-197-080		CAP, CHIP 0.01 DM
C766	87-010-197-080		CAP, CHIP 0.01 DM
C767	87-010-405-080		CAP, ELECT 10-50V
C768	87-010-197-080		CAP, CHIP 0.01 DM
C769	87-010-408-080		CAP, ELECT 47-50V
C770	87-015-821-080		C-CAP 0.047
C771	87-010-407-080		CAP, ELECT 33-50V
C772	87-010-194-080		CAP, CHIP 0.047
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-010-197-080		CAP, CHIP 0.01 DM
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-015-819-080		CAPACITOR,0.01
C784	87-010-197-080		CAP, CHIP 0.01 DM
C785	87-010-403-080		CAP, ELECT 3.3-50V
C786	87-010-403-080		CAP, ELECT 3.3-50V
C787	87-010-184-080		CHIP CAPACITOR,3300P (K)
C788	87-010-184-080		CHIP CAPACITOR,3300P (K)
C789	87-010-179-080		CAP,CHIP S B1200P
C790	87-010-179-080		CAP,CHIP S B1200P
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-010-177-080		C-CAP,S 820P-50 SL
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C797	87-010-182-080		C-CAP,S 2200P-50 B
C798	87-010-182-080		C-CAP,S 2200P-50 B
C799	87-010-194-080		CAP, CHIP 0.047
C812	87-010-197-080		CAP, CHIP 0.01 DM
C814	87-010-197-080		CAP, CHIP 0.01 DM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C820	87-010-408-080		CAP, ELECT 47-50V
C821	87-010-197-080		CAP, CHIP 0.01 DM
C822	87-010-197-080		CAP, CHIP 0.01 DM
C823	87-010-197-080		CAP, CHIP 0.01 DM
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-010-152-080		C-CAP,S 8P-50 CH
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CF802	87-008-261-010		FILTER, SFE10.7MA5-A
FB601	87-A50-190-080		C-COIL,S BLM21A102S
FC602	85-NF5-617-010		FF-CABLE,6P 1.25
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J211	87-A60-483-010		JACK,DIA6.3 BLK ST W/S KM
J203	87-033-240-010		TERMINAL,SP 4P32SV1-05
J601	87-A60-402-010		JACK,PIN 6P R/W HSP-246V30
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L781	87-005-847-080		COIL,2.2UH(CECS)
L791	87-A50-209-010		COIL,1 POLE MPX (MIT)
L792	87-A50-209-010		COIL,1 POLE MPX (MIT)
L832	86-NFZ-694-080		COIL,2.2UH K CECS
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
M451	87-A90-796-010		FAN,F614R-12MC-15-30MM
R123	87-022-200-080		RESISTOR, METAL 0.56 1W
R237	87-A00-262-080		RES,M/F 0.15-2W J
R238	87-A00-262-080		RES,M/F 0.15-2W J
R239	87-A00-262-080		RES,M/F 0.15-2W J
R240	87-A00-262-080		RES,M/F 0.15-2W J
RY101	87-045-389-010		RELAY, 12V OSA-SS-212 DM5
SFR301	87-A90-557-080		SFR,33K H HOKU
SFR302	87-A90-557-080		SFR,33K H HOKU
SFR303	87-A90-557-080		SFR,33K H HOKU
SFR304	87-A90-557-080		SFR,33K H HOKU
SFR305	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR306	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR351	87-A90-433-080		SFR,50K H NVZ6TLTA
SFR352	87-A90-433-080		SFR,50K H NVZ6TLTA
W104	85-NF5-628-010		F-CABLE 7P-2.5
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C101	87-010-263-040		CAP,E 100-10
C102	87-010-196-080		CHIP CAPACITOR,0.1-25
C103	87-010-196-080		CHIP CAPACITOR,0.1-25
C104	87-010-494-040		CAP,E 1-50 GAS
C105	87-010-178-080		CHIP CAP 1000P
C106	87-A10-189-040		CAP,E 220-10
C107	87-010-197-080		CAP, CHIP 0.01 DM
C108	87-010-196-080		CHIP CAPACITOR,0.1-25
C109	87-010-194-080		CAP, CHIP 0.047
C110	87-012-157-080		C-CAP,S 330P-50 CH
C111	87-010-320-080		CHIP CAP 68P
C112	87-010-312-080		C-CAP,S 15P-50 CH
C113	87-010-316-080		C-CAP,S 33P-50 CH
C114	87-010-182-080		C-CAP,S 2200P-50 B
C115	87-010-182-080		C-CAP,S 2200P-50 B
C116	87-010-075-040		CAP,E 10-16 5L
C117	87-012-157-080		C-CAP,S 330P-50 CH
C118	87-010-196-080		CHIP CAPACITOR,0.1-25
C119	87-010-196-080		CHIP CAPACITOR,0.1-25
C120	87-010-196-080		CHIP CAPACITOR,0.1-25
C121	87-010-194-080		CAP, CHIP 0.047
C122	87-010-194-080		CAP, CHIP 0.047
C124	87-010-555-040		CAP,E 100-10 GAS
C125	87-010-196-080		CHIP CAPACITOR,0.1-25
C201	87-010-178-080		CHIP CAP 1000P
C202	87-010-194-080		CAP, CHIP 0.047
C203	87-010-408-040		CAP,E 47-50 SME
C204	87-010-404-040		CAP,E 4.7-50 SME
C205	87-010-404-040		CAP,E 4.7-50 SME
C371	87-010-196-080		CHIP CAPACITOR,0.1-25
C372	87-010-196-080		CHIP CAPACITOR,0.1-25
C373	87-010-196-080		CHIP CAPACITOR,0.1-25
C374	87-010-196-080		CHIP CAPACITOR,0.1-25
C375	87-010-196-080		CHIP CAPACITOR,0.1-25
C376	87-012-158-080		C-CAP,S 390P-50 CH
C377	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-196-080		CHIP CAPACITOR,0.1-25
C404	87-010-196-080		CHIP CAPACITOR,0.1-25
C406	87-010-196-080		CHIP CAPACITOR,0.1-25
C408	87-010-196-080		CHIP CAPACITOR,0.1-25
C601	87-010-405-040		CAP,E 10-50
C602	87-010-186-080		CAP,CHIP 4700P
C603	87-010-378-040		CAP,E 10-16
C604	87-010-382-040		CAP,E 22-25 SME
C605	87-010-196-080		CHIP CAPACITOR,0.1-25
C607	87-010-321-080		CHIP CAPACITOR,82P(J)
C608	87-010-196-080		CHIP CAPACITOR,0.1-25
C609	87-010-545-040		CAP,E 0.22-50 SME
C611	87-010-177-080		C-CAP,S 820P-50 SL
C614	87-A10-189-040		CAP,E 220-10
C651	87-010-401-040		CAP,E 1-50 SME
C652	87-010-196-080		CHIP CAPACITOR,0.1-25
C653	87-010-196-080		CHIP CAPACITOR,0.1-25
C901	87-010-263-040		CAP,E 100-10
C902	87-010-196-080		CHIP CAPACITOR,0.1-25
C903	87-010-313-080		CAP, CHIP 18P
C904	87-012-155-080		C-CAP 180P-50CH
C905	87-010-400-040		CAP,E 0.47-50
FB601	87-008-372-080		FILTER, EMI BL OIRNI
FC301	88-906-151-110		FF-CABLE, 6P 1.25
FC501	88-915-221-110		FF-CABLE, 15P 1.25 220MM
FC502	88-918-251-110		FF-CABLE, 18P 1.25 250MM
FC801	85-NF5-618-010		CABLE,FFC 13P-1.25
FL201	88-NF5-611-010		FL,BJ609GK
J601	87-A60-284-010		JACK,3.5MO (MSC)
J602	87-A60-284-010		JACK,3.5MO (MSC)
L501	87-005-448-080		COIL 220UH,K
L901	87-007-340-010		COIL,CLOCK 4.19MHZ
LED401	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED402	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED403	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED404	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED405	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED406	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED407	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED408	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED409	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED410	87-A90-783-080		LED,SLZ-781C-06H-S-T2
LED411	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED412	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED413	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED414	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED415	87-A90-782-080		LED,SLZ-981C-06H-S-T2
LED416	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED417	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED418	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED419	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED420	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED421	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED422	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED423	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED424	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED425	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED426	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED427	87-A40-446-040		LED,SLP-7131F-81H-S-T1 P-GRN
LED428	87-017-350-080		LED,SEL1550CM
LED429	87-017-350-080		LED,SEL1550CM
LED430	87-017-350-080		LED,SEL1550CM
LED431	87-017-350-080		LED,SEL1550CM
LED432	87-017-350-080		LED,SEL1550CM
LED433	87-017-350-080		LED,SEL1550CM
LED434	87-017-350-080		LED,SEL1550CM
LED435	87-017-350-080		LED,SEL1550CM
LED436	87-017-350-080		LED,SEL1550CM
LED437	87-017-350-080		LED,SEL1550CM
LED444	87-070-278-010		LED,SLZ-738A-24-S
LED445	87-070-290-010		LED,SLZ 936-30-S
LED446	87-070-278-010		LED,SLZ-738A-24-S
LED447	87-070-278-010		LED,SLZ-738A-24-S
LED448	87-070-290-010		LED,SLZ 936-30-S
LED449	87-070-278-010		LED,SLZ-738A-24-S
LED450	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
LED451	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
LED453	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
LED454	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
LED455	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
LED456	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
LED457	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
LED458	87-A90-825-040		LED,SLP-9131C-81H-S-T1 RED
S101	87-A90-792-010		SW,RTRY EC12E12244 ENCORDER
S102	87-A90-535-010		SW,RTRY EC16B24304
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S321	87-A90-095-080		SW,TACT EVQ11G04M
S322	87-A90-095-080		SW,TACT EVQ11G04M
S323	87-A90-095-080		SW,TACT EVQ11G04M
S324	87-A90-095-080		SW,TACT EVQ11G04M
S325	87-A90-095-080		SW,TACT EVQ11G04M
S326	87-A90-095-080		SW,TACT EVQ11G04M
S327	87-A90-095-080		SW,TACT EVQ11G04M
S333	87-A90-095-080		SW,TACT EVQ11G04M
S335	87-A90-095-080		SW,TACT EVQ11G04M
S341	87-A90-095-080		SW,TACT EVQ11G04M
S342	87-A90-095-080		SW,TACT EVQ11G04M
S343	87-A90-095-080		SW,TACT EVQ11G04M
S344	87-A90-095-080		SW,TACT EVQ11G04M
S345	87-A90-095-080		SW,TACT EVQ11G04M
S346	87-A90-095-080		SW,TACT EVQ11G04M
S347	87-A90-095-080		SW,TACT EVQ11G04M
S348	87-A90-095-080		SW,TACT EVQ11G04M
S349	87-A90-095-080		SW,TACT EVQ11G04M
S350	87-A90-095-080		SW,TACT EVQ11G04M
X101	87-A70-070-080		VIB,CER 5.76MHZ CRHF
KEY C.B			
S351	87-A90-095-080		SW,TACT EVQ11G04M
S352	87-A90-095-080		SW,TACT EVQ11G04M
S353	87-A90-095-080		SW,TACT EVQ11G04M
S354	87-A90-095-080		SW,TACT EVQ11G04M
S355	87-A90-095-080		SW,TACT EVQ11G04M
LED438	87-070-201-080		LED,SLP9118C-51-S-T1
LED439	87-070-201-080		LED,SLP9118C-51-S-T1
LED440	87-070-201-080		LED,SLP9118C-51-S-T1
LED441	87-070-201-080		LED,SLP9118C-51-S-T1
LED442	87-070-201-080		LED,SLP9118C-51-S-T1
LED443	87-070-201-080		LED,SLP9118C-51-S-T1
PRO C.B			
C101	87-012-368-080		C-CAP,S 0.1-50 Z F
C102	87-012-368-080		C-CAP,S 0.1-50 Z F
C103	87-010-917-090		CAP,E 3300-50 M SMG
C104	87-010-917-090		CAP,E 3300-50 M SMG
C105	87-010-196-080		C-CAP,S 0.1-25 Z F
C106	87-010-196-080		C-CAP,S 0.1-25 Z F
C111	87-010-178-080		C-CAP,S 1000P-50 K B
C207	87-010-402-080		CAP,E 2.2-50 M SME
C208	87-010-402-080		CAP,E 2.2-50 M SME
C209	87-010-183-080		C-CAP,S 2700P-50 K B
C210	87-010-183-080		C-CAP,S 2700P-50 K B
C211	87-010-404-080		CAP,E 4.7-50 M SME
C212	87-010-404-080		CAP,E 4.7-50 M SME
C217	87-010-408-080		CAP,E 47-50 M SME
C218	87-010-408-080		CAP,E 47-50 M SME
C219	87-A10-596-080		C-CAP,S 100P-100 J CH
C220	87-A10-596-080		C-CAP,S 100P-100 J CH
C221	87-A10-899-080		CAP,E 47-25 M BP
C222	87-A10-899-080		CAP,E 47-25 M BP
C223	87-010-544-080		CAP,E 0.1-50 M SME
C224	87-010-544-080		CAP,E 0.1-50 M SME
C225	87-010-993-080		C-CAP,S 0.056-25 K B
C226	87-010-993-080		C-CAP,S 0.056-25 K B
C227	87-010-196-080		C-CAP,S 0.1-25 Z F
C228	87-010-196-080		C-CAP,S 0.1-25 Z F
C233	87-010-263-080		CAP,E 100-10 SME
C234	87-010-263-080		CAP,E 100-10 SME
C307	87-010-402-080		CAP,E 2.2-50 M SME
C309	87-010-183-080		C-CAP, 2700P-50 K B
C311	87-010-404-080		CAP,E 4.7-50 M SME
C317	87-010-406-080		CAP,E 22-50 M SME
C319	87-A10-596-080		C-CAP,S 100P-100 J CH
C321	87-A10-899-080		CAP,E 47-25 M BP
C323	87-010-544-080		CAP,E 0.1-50 M SME
C325	87-010-993-080		C-CAP,S 0.056-25 K B
C327	87-010-196-080		C-CAP,S 0.1-25 Z F
C333	87-010-263-080		CAP,E 100-10 SME
C400	87-010-378-080		CAP,E 10-16 M SME
C401	87-010-374-080		CAP,E 47-10 M SME
C402	87-010-196-080		C-CAP,S 0.1-25 Z F
C403	87-010-154-080		C-CAP,S 10P-50 D CH
C404	87-010-374-080		CAP,E 47-10 M SME
C405	87-010-196-080		C-CAP,S 0.1-25 Z F
C407	87-010-154-080		C-CAP,S 10P-50 D CH
C408	87-010-545-080		CAP,E 0.22-50 M SME
C410	87-010-546-080		CAP,E 0.33-50 SME
C413	87-010-196-080		C-CAP,S 0.1-25 Z F
C415	87-010-400-080		CAP,E 0.47-50 M SME
C416	87-010-400-080		CAP,E 0.47-50 M SME
C418	87-010-401-080		CAP,E 1-50 M SME
C419	87-010-260-080		CAP,E 47-25 SME
C421	87-010-378-080		CAP,E 10-16 M SME
C422	87-010-378-080		CAP,E 10-16 M SME
C501	87-010-176-080		C-CAP,S 680P-50 J SL
C502	87-010-176-080		C-CAP,S 680P-50 J SL
C503	87-A10-804-080		C-CAP,S 0.1-25 J B
C504	87-A10-804-080		C-CAP,S 0.1-25 J B
C505	87-A10-804-080		C-CAP,S 0.1-25 J B
C506	87-A10-804-080		C-CAP,S 0.1-25 J B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C509	87-010-112-080		CAP,E 100-16 M SME
C510	87-010-221-080		CAP,E 470-10 M SME
C511	87-A10-891-080		CAP,E 4.7-25 SME(K)
C512	87-A10-800-080		C-CAP,S 6800P-16 J B
C513	87-010-374-080		CAP,E 47-10 M SME
C514	87-010-196-080		C-CAP,S 0.1-25 Z F
C515	87-010-401-080		CAP,E 1-50 M SME
C516	87-010-401-080		CAP,E 1-50 M SME
C518	87-010-546-080		CAP,E 0.33-50 SME
C519	87-010-400-080		CAP,E 0.47-50 M SME
C520	87-010-546-080		CAP,E 0.33-50 SME
C521	87-010-546-080		CAP,E 0.33-50 SME
C522	87-018-209-080		CAP,TC U 0.1-50 Z F
C524	87-010-374-080		CAP,E 47-10 M SME
C526	87-010-196-080		C-CAP,S 0.1-25 Z F
C530	87-010-544-080		CAP,E 0.1-50 M SME
C531	87-010-546-080		CAP,E 0.33-50 SME
C532	87-010-971-080		C-CAP,S 4700P-50 J B
C533	87-012-349-080		C-CAP,S 1000P-50 J CH
C538	87-010-971-080		C-CAP,S 4700P-50 J B
C539	87-012-349-080		C-CAP,S 1000P-50 J CH
C540	87-010-401-080		CAP,E 1-50 M SME
C541	87-010-401-080		CAP,E 1-50 M SME
C542	87-A10-799-080		C-CAP,S 5600P-16 J B
C543	87-A10-802-080		C-CAP,S 0.047-16 J B
C544	87-A10-229-080		C-CAP,S 0.68-10 K
C545	87-012-393-080		C-CAP,S 0.22-16 K
C546	87-012-393-080		C-CAP,S 0.22-16 K
C547	87-010-404-080		CAP,E 4.7-50 M SME
C548	87-010-404-080		CAP,E 4.7-50 M SME
C549	87-012-393-080		C-CAP,S 0.22-16 K
C550	87-012-393-080		C-CAP,S 0.22-16 K
C551	87-016-081-080		C-CAP,S 0.1-16 K R
C552	87-A10-802-080		C-CAP,S 0.047-16 J B
C553	87-A10-802-080		C-CAP,S 0.047-16 J B
C554	87-016-081-080		C-CAP,S 0.1-16 K R
C555	87-016-081-080		C-CAP,S 0.1-16 K R
C556	87-A10-801-080		C-CAP,S 0.022-16 J B
C557	87-A10-801-080		C-CAP,S 0.022-16 J B
C558	87-016-081-080		C-CAP,S 0.1-16 K R
C579	87-010-402-080		CAP,E 2.2-50 M SME
C580	87-010-402-080		CAP,E 2.2-50 M SME
C601	87-010-196-080		C-CAP,S 0.1-25 Z F
C602	87-010-196-080		C-CAP,S 0.1-25 Z F
C603	87-010-196-080		C-CAP,S 0.1-25 Z F
C604	87-010-196-080		C-CAP,S 0.1-25 Z F
J201	87-A60-561-010		JACK,PIN 4P W/R,B/O
J601	87-A60-562-010		JACK,PIN 6P W/R
L201	87-003-383-010		COIL,1UH K
L202	87-003-383-010		COIL,1UH K
L301	87-003-383-010		COIL,1UH K
R243	87-A00-258-080		RES,M/F 0.22-1W J
R244	87-A00-258-080		RES,M/F 0.22-1W J
R245	87-A00-258-080		RES,M/F 0.22-1W J
R246	87-A00-258-080		RES,M/F 0.22-1W J
R343	87-A00-258-080		RES,M/F 0.22-1W J
R345	87-A00-258-080		RES,M/F 0.22-1W J
R509	87-022-214-080		C-RES,S 100K-1/10W F

AC1 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ F101	87-035-492-010		FUSE,6.3A 125V D UL
⚠ FC101	87-A90-505-080		FUSE CLAMP,TP00351-51
⚠ FC102	87-A90-505-080		FUSE CLAMP,TP00351-51
⚠ PT101	88-NFS-601-010		PT,U EI96-60 8NF-S
⚠ T101	87-A60-317-010		TERMINAL, 1P MSC
⚠ T102	87-A60-317-010		TERMINAL, 1P MSC

AC2 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ PR101	87-026-691-080		FUSE,10A 125V 251
⚠ PR102	87-026-691-080		FUSE,10A 125V 251
⚠ PR103	87-026-691-080		FUSE,10A 125V 251
⚠ PR104	87-026-691-080		FUSE,10A 125V 251
⚠ PR105	87-A90-210-010		FUSE,7A 125V 251
⚠ PR106	87-A90-210-010		FUSE,7A 125V 251
⚠ W104	85-NF5-628-010		F-CABLE,7P-2.5

DECK C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON105	87-099-756-019		CONN, 15P 9604 S F
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY, 27
SOL2	82-ZM1-618-410		SOL ASSY, 27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
SW6	87-036-110-010		SW,MICRO SPPB62
SW8	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW9	87-A90-248-019		SW,MICRO ESE11SH2CXQ
W001	82-ZM3-601-019		RBN,CORD,4P-75

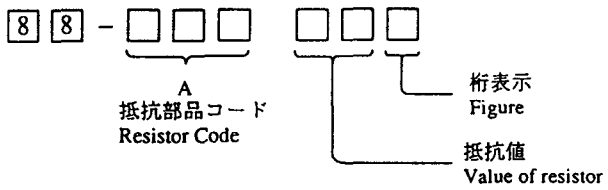
HEAD-1 C.B

HEAD-2 C.B

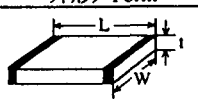
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON351	87-NF6-616-010		CONN ASSY,8P-RPB

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード：A Resistor Code: A
1／16W	1608	±5%	CJ		1.6	0.8	0.45	108
1／10W	2125	±5%	CJ		2	1.25	0.45	118
1／8W	3216	±5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

E C B

KTA1266
KTC3198

E C B

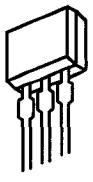
CC5551

E C B

2SA1296

B C E

2SB1344
2SB1370
2SB1626
2SD2025
2SD2495
FN1016
FP1016

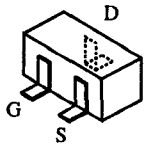


E C B

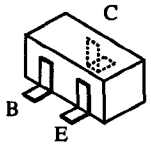
2SA933
2SC4115

G D S

2SK2937

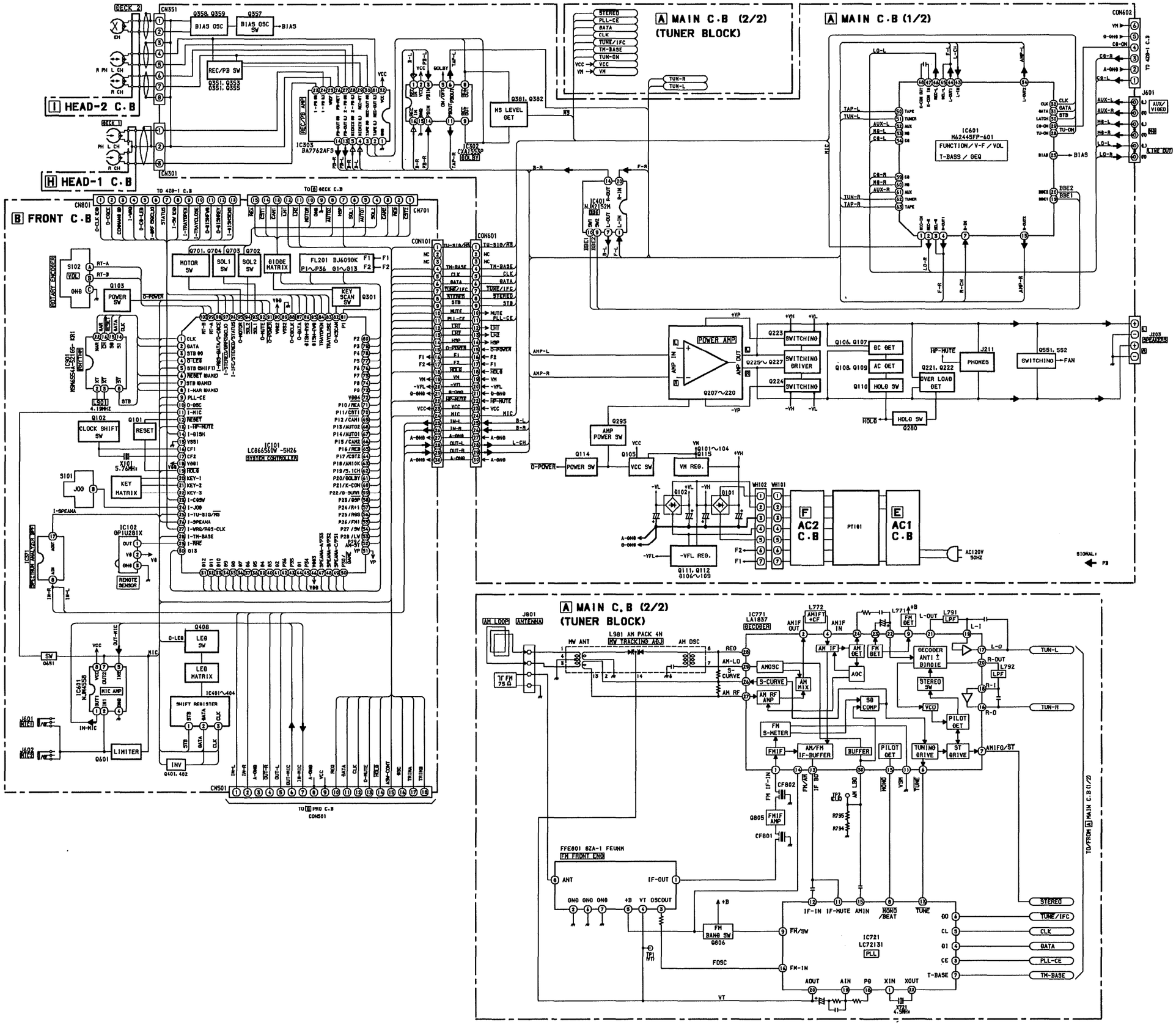


2SK2158

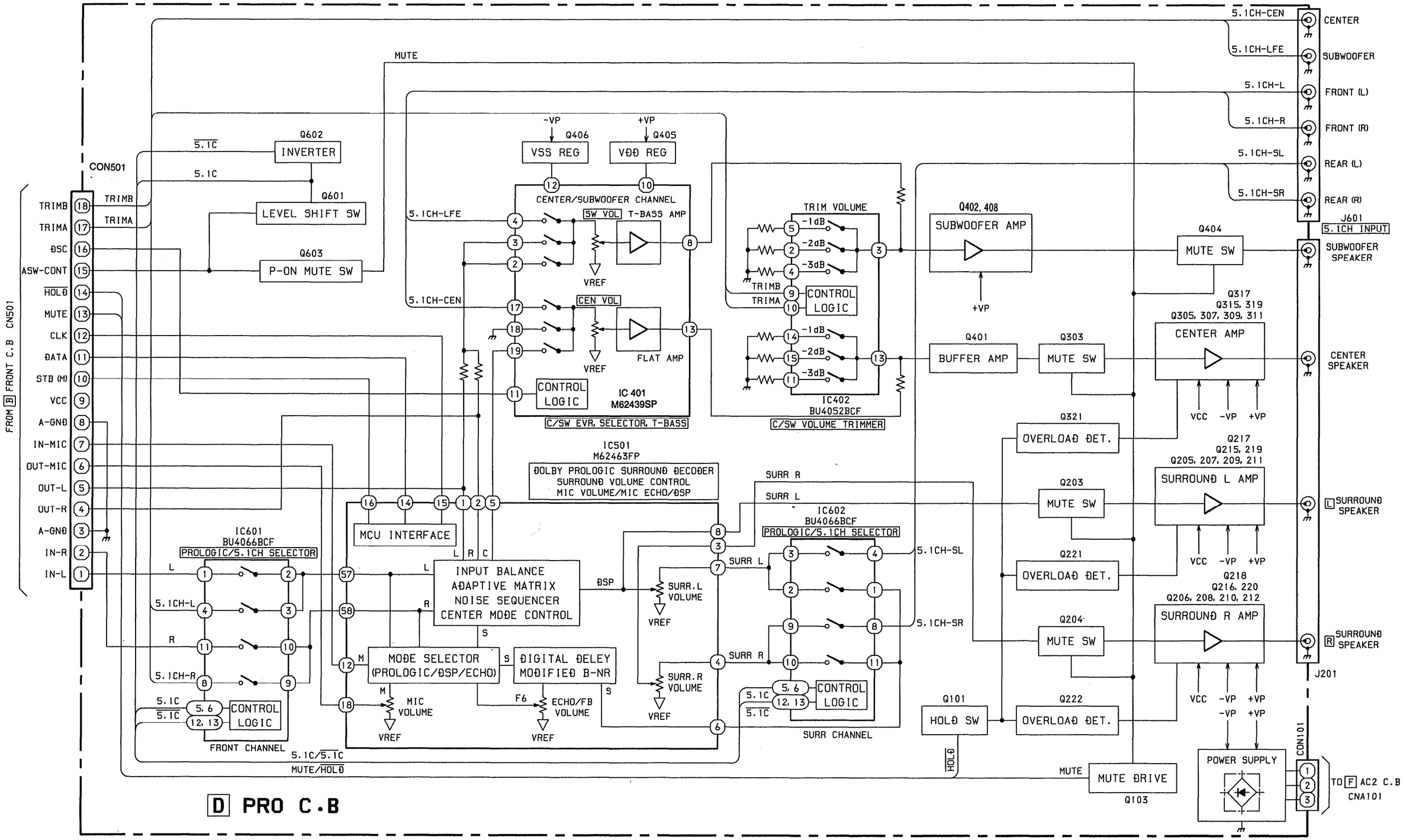


2SA1235
2SC2714
2SC3052
CMBT5401
CMBT5551
CSA1362
CSD1306
DTA123JK
DTA114WK
DTC143TK
RN1410
RT1N141C
RT1N144C
RT1N441C
RT1P141C
RT1P144C
RT1P441C

BLOCK DIAGRAM – 1 (MAIN / FRONT)



BLOCK DIAGRAM – 2 (PRO)

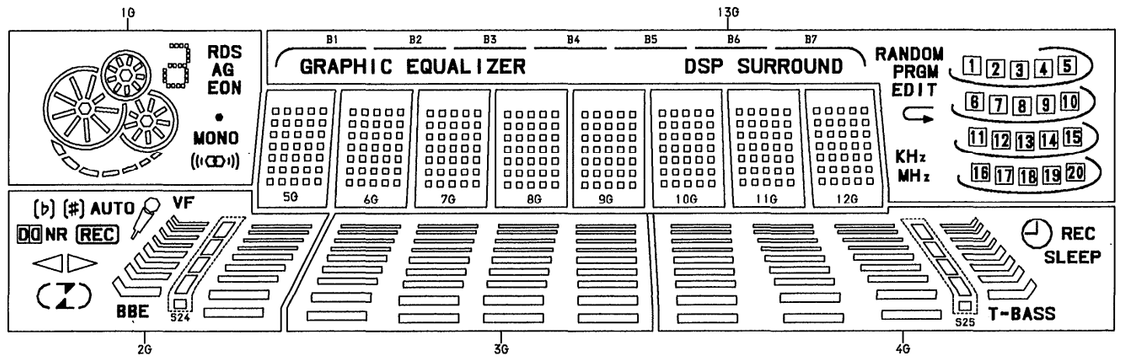


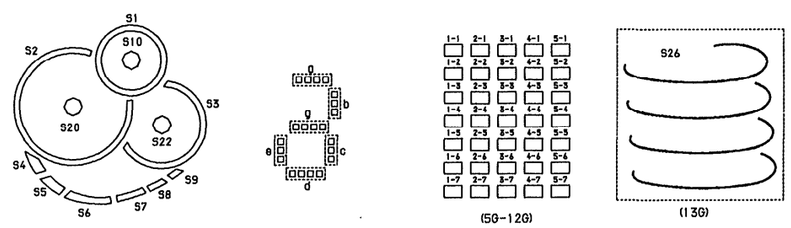
D PRO C.B

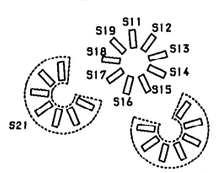
FL GRID ASSIGNMENT & ANODE CONNECTION

FL, BJ609GK

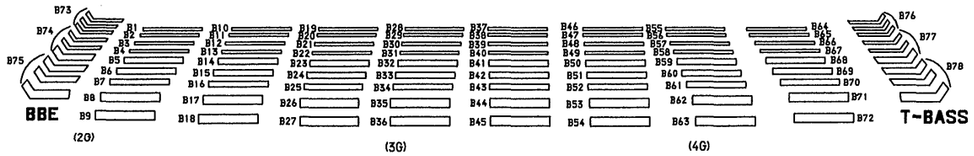
GRID ASSIGNMENT







(1G)



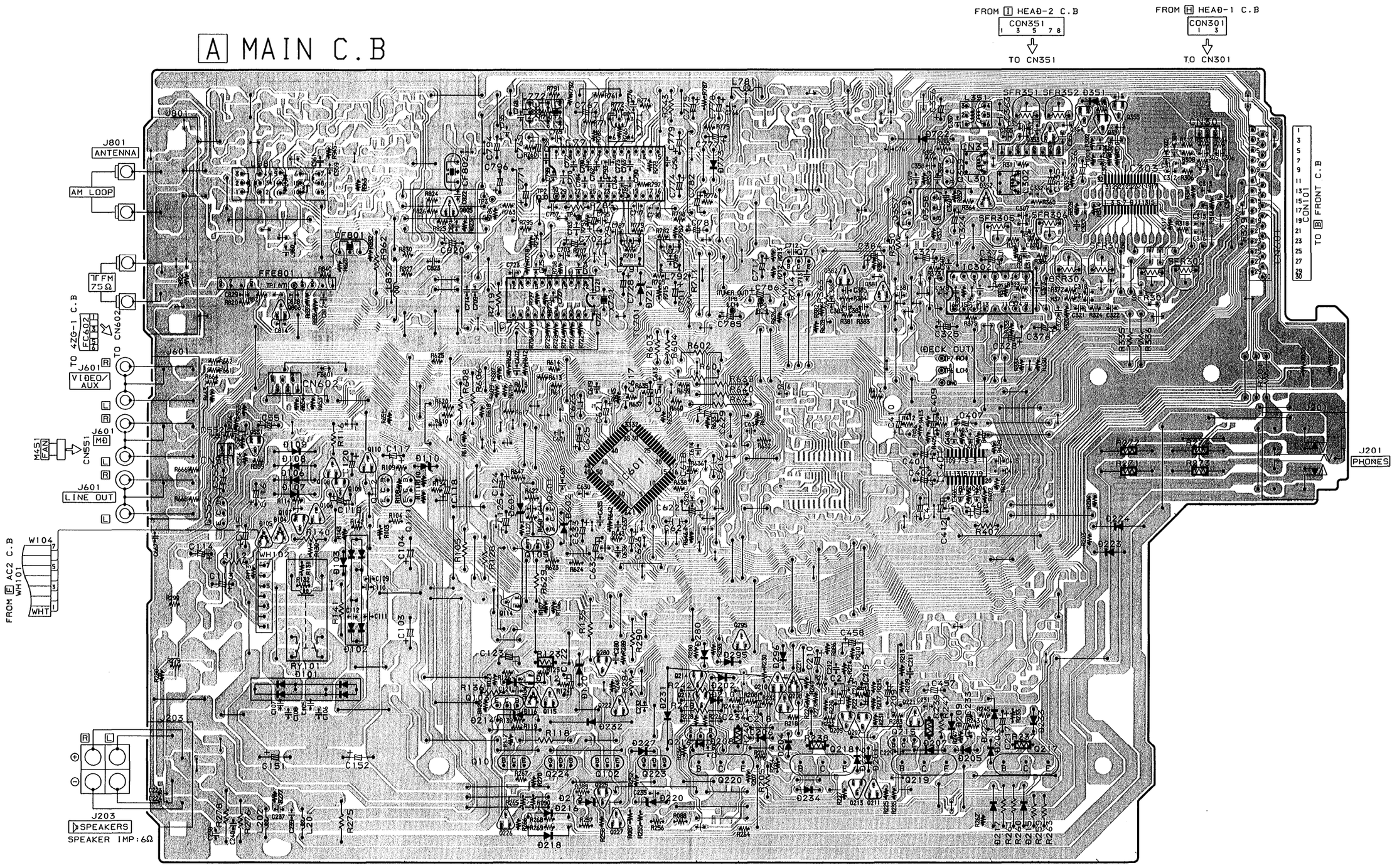
ANODE CONNECTION

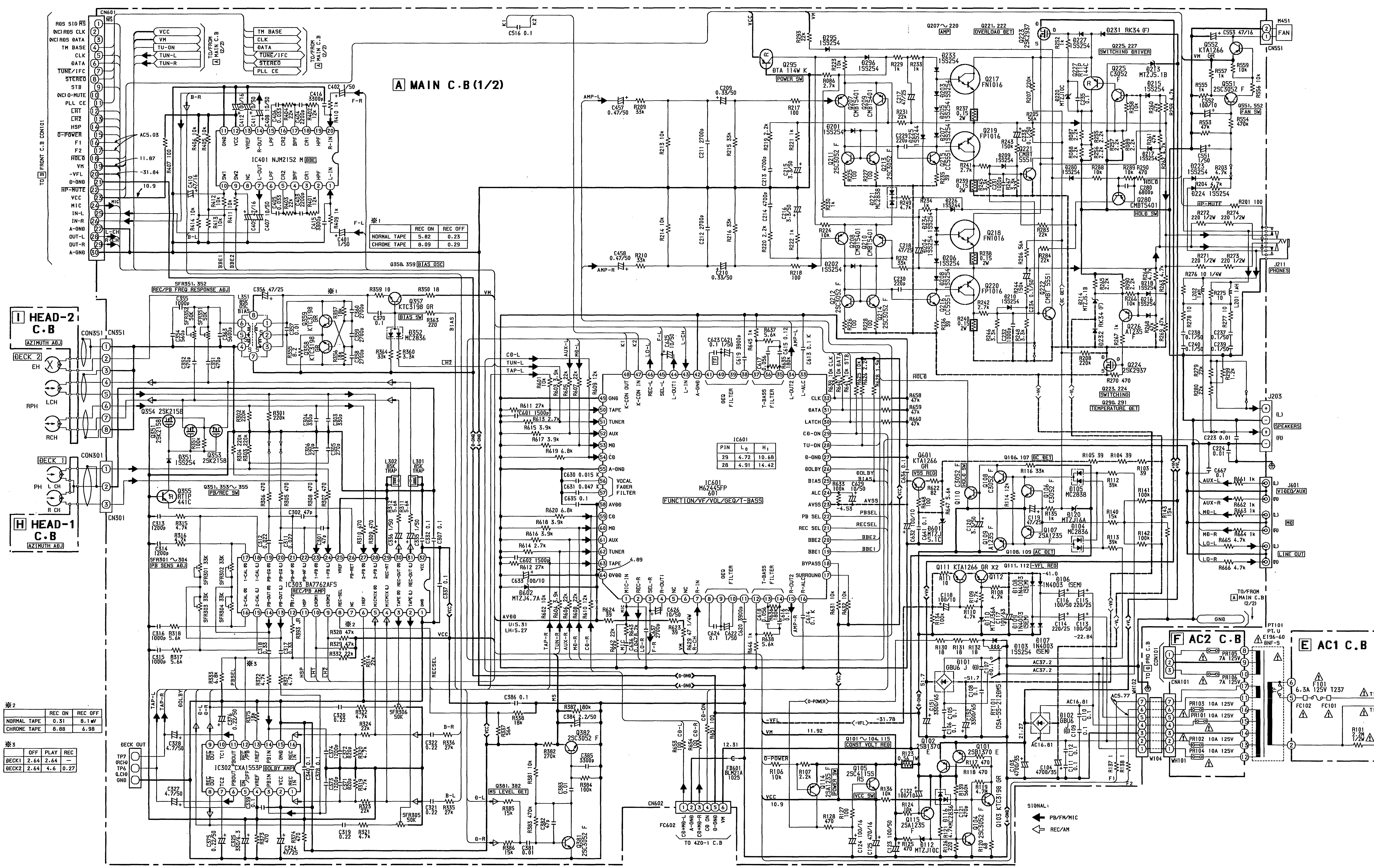
	1G	2G	3G	4G	5G-12G	13G
P1	EON	B9	B45	REC	1-1	DSP SURROUND
P2	AG	NR	B36	B72	2-1	GRAPHIC EQUALIZER
P3	●	BBE	B27	B63	3-1	B7
P4	MONO	S24	B18	B54	4-1	B6
P5	((CD))	BB	B44	◴	5-1	B5
P6	RDS	☾	B35	B71	1-2	B4
P7	b	◪	B26	B62	2-2	B3
P8	c	☽	B17	B53	3-2	B2
P9	a, d, g	B7	B43	SLEEP	4-2	B1
P10	e	REC	B34	B70	5-2	RANDOM
P11	S1	◁	B25	B61	1-3	PRGM
P12	S11	▷	B16	B52	2-3	EDIT
P13	S12	B6	B42	T-BASS	3-3	⊂
P14	S19	♭ #	B33	B69	4-3	KHz
P15	S13	(♭)	B24	B60	5-3	MHz
P16	S10	(#)	B15	B51	1-4	S26
P17	S18	B5	B41	B78	2-4	16
P18	S14	B75	B32	B68	3-4	11

	1G	2G	3G	4G	5G-12G	13G
P19	S17	B74	B23	B59	4-4	6
P20	S15	B73	B14	B50	5-4	1
P21	S16	B4	B40	B77	1-5	17
P22	S3	VF	B31	B67	2-5	12
P23	S23	AUTO	B22	B58	3-5	7
P24	S22	–	B13	B49	4-5	2
P25	S9	B3	B39	B76	5-5	18
P26	S8	–	B30	B66	1-6	13
P27	S7	–	B21	B57	2-6	8
P28	S6	–	B12	B48	3-6	3
P29	S5	B2	B38	S25	4-6	19
P30	S4	–	B29	B65	5-6	14
P31	S2	–	B20	B56	1-7	9
P32	S21	–	B11	B47	2-7	4
P33	S20	B1	B37	–	3-7	20
P34	–	–	B28	B64	4-7	15
P35	–	–	B19	B55	5-7	5
P36	–	–	B10	B46	–	10

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A B C D E F G H I J




A MAIN C・B (1/2)
I HEAD-2 C・B
AZIMUTH ADJ
H HEAD-1 C・B
AZIMUTH ADJ
F AC2 C・B
E AC1 C・B
TO B FRONT C.B CON101
TO/FROM A MAIN C.B (2/2)
TO 4Z0-1 C.B
IC401 NJM2152 M BBE
IC601 M62445FP
FUNCTION/VF/VOL/GEQ/T-BASS
IC303 BA7762AFS
REC/PB AMP
IC302 CXA1553P DOLBY AMP
Q358, 359 BIAS OSC
Q357 KTC3198 GR BIAS SW
Q351, 353～355 PB/REC SW
SFR351, 352 REC/PB FREQ RESPONSE ADJ
SFR301～304 PB SENS ADJ
Q381, 382 MS LEVEL DET
Q207～220 AMP
Q221, 222 OVERLOAD DET
Q225, 227 SWITCHING DRIVER
Q223, 224 SWITCHING
Q290, 291 TEMPERATURE DET
Q280 CMBT5401 HOLD SW
Q295 DTA 114W K POWER SW
Q551, 552 FAN SW
Q601 KTA1266 GR VSS REG
Q106, 107 DC DET
Q108, 109 AC DET
Q111, 112 -VFL REG
Q101～104, 115 CONST VOLT REG
Q114 2SA1235 F POWER SW
Q105 2SC4115S R5 VCC SW
RY101 OSA-SS-212DM5
J211 PHONES
J203 SPEAKERS
J601 VIDEO/AUX
MD
LINE OUT
M451 FAN
DECK OUT
AC120V 60HZ
SIGNAL:
PB/FM/MIC
REC/AM

※1

	REC ON	REC OFF
NORMAL TAPE	5.82	0.23
CHROME TAPE	8.09	0.29

IC601

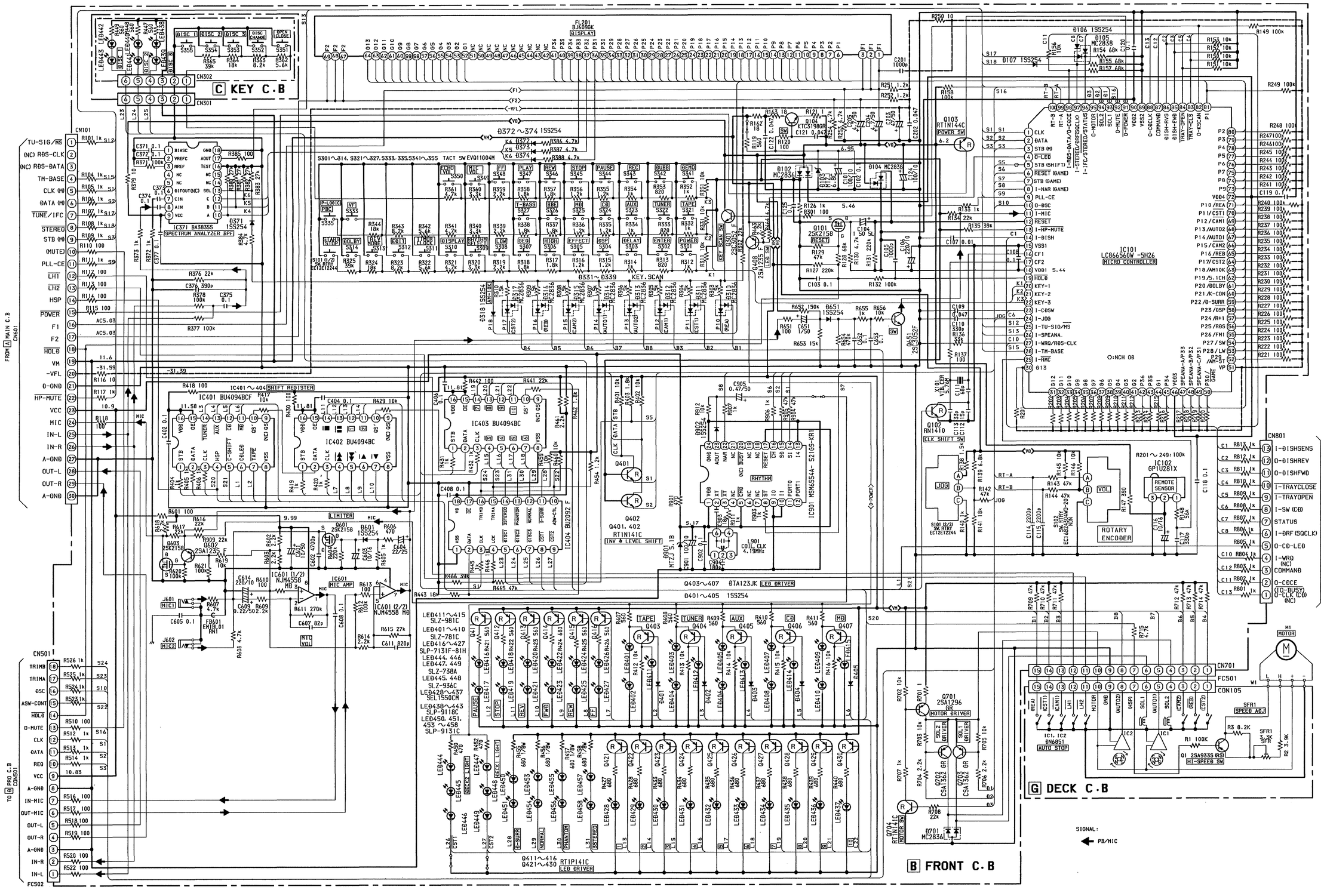
PIN	L_0	H_1
29	4.72	10.68
28	4.91	14.42

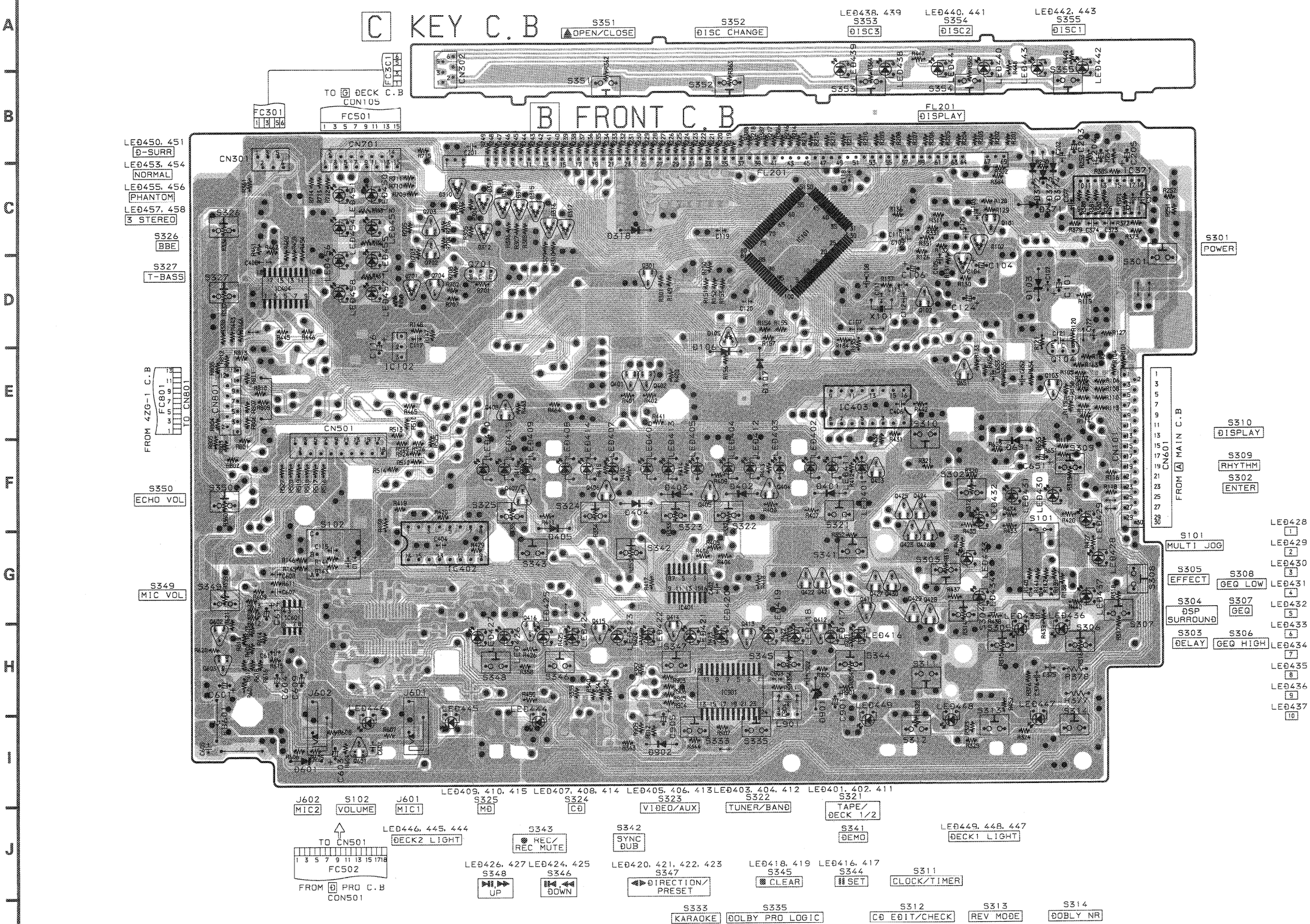
※2

	REC ON	REC OFF
NORMAL TAPE	0.31	8.1mV
CHROME TAPE	8.88	6.98

※3

	OFF	PLAY	REC
DECK1	2.64	2.64	—
DECK2	2.64	4.6	0.27


C KEY C.B
CN302
CN301
CN101
CN501
CN801
CN701
FC501
CON105
FC502
IC401 ~ 404 SHIFT REGISTER
IC401 BU4094BCF
IC402 BU4094BC
IC403 BU4094BC
IC404 BU2092 F
IC601 (1/2) NJM4558
IC601 (2/2) NJM4558 MD
IC601 MIC AMP
IC371 BA3835S SPECTRUM ANALYZER BPF
IC1 LC866560W -5H26 MICRO CONTROLLER
IC101 ON6851 AUTO STOP
IC102 GP1U281X REMOTE SENSOR
FL201 BJ6096K DISPLAY
KEY.SCAN
Q101 2SK2158 RESET
Q102 RN1410 CLK SHIFT SW
Q103 RT1N144C POWER SW
Q104 KTC3198GR
Q401, 402 RT1N141C INV & LEVEL SHIFT
Q403~407 DTA123JK LED DRIVER
Q411~416 Q421~430 RT1P141C LED DRIVER
Q701 2SA1296 OR MOTOR DRIVER
Q702 2SA1362 GR
Q703 2SA1362 GR
Q704 RT1N141C MOTOR SW
Q1 2SA9335 RS HI-SPEED SW
D102 MC2836
D103 KTB781
D104 MC2838
D105 MC2838
D106 1SS254
D107 1SS254
D372~374 1SS254
D401~405 1SS254
D601 1SS254
D701 MC2836
L901 COIL CLK 4.19MHz
X101 5.76M
X102 32.768K
M1 MOTOR
VOL
ROTARY ENCODER
JOG
MIC
LIMITER
SHIFT REGISTER
TO B PRO C.B CON501
FROM A MAIN C.B CN601
FROM 426-1 C.B
B FRONT C.B
G DECK C.B
SIGNAL:
PB/MIC
TU-SIG/MS
(NC) RDS-CLK
(NC) RDS-DATA
TM-BASE
CLK (M)
DATA (M)
TUNE/IFC
STEREO
STB (M)
(MUTE)
PLL-CE
LHT
LH2
HSP
POWER
F1
F2
HOLD
VM
-VFL
B-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
A-GND
TRIMB
TRIMA
OSC
ASW-CONT
HOLD
D-MUTE
CLK
DATA
REQ
VCC
A-GND
IN-MIC
OUT-MIC
OUT-L
OUT-R
A-GND
IN-R
IN-L
O:NCH OB
SIGNAL:
PB/MIC


C KEY C.B
S351 OPEN/CLOSE
S352 DISC CHANGE
LED438, 439 S353 DISC3
LED440, 441 S354 DISC2
LED442, 443 S355 DISC1
TO D DECK C.B CON105
FC301
FC501
B FRONT C.B
FL201 DISPLAY
LED450, 451 D-SURR
LED453, 454 NORMAL
LED455, 456 PHANTOM
LED457, 458 3 STEREO
S326 BBE
S327 T-BASS
S301 POWER
FROM 4ZG-1 C.B CN801
TO CN801
S350 ECHO VOL
S349 MIC VOL
S310 DISPLAY
S309 RHYTHM
S302 ENTER
FROM A MAIN C.B CN601
S101 MULTI JOG
S305 EFFECT
S308 GEQ LOW
S304 DSP SURROUND
S307 GEQ
S303 DELAY
S306 GEQ HIGH
LED428 1
LED429 2
LED430 3
LED431 4
LED432 5
LED433 6
LED434 7
LED435 8
LED436 9
LED437 10
J602 MIC2
S102 VOLUME
J601 MIC1
LED409, 410, 415 LED407, 408, 414 LED405, 406, 413 LED403, 404, 412 LED401, 402, 411
S325 MD
S324 CD
S323 VIDEO/AUX
S322 TUNER/BAND
S321 TAPE/ DECK 1/2
TO CN501
FC502
FROM D PRO C.B CON501
LED446, 445, 444 DECK2 LIGHT
S343 REC/ REC MUTE
S342 SYNC DUB
S341 DEMO
LED449, 448, 447 DECK1 LIGHT
LED426, 427 LED424, 425
S348 UP
S346 DOWN
LED420, 421, 422, 423
S347 DIRECTION/ PRESET
LED418, 419 LED416, 417
S345 CLEAR
S344 SET
S311 CLOCK/TIMER
S333 KARAOKE
S335 DOLBY PRO LOGIC
S312 CD EDIT/CHECK
S313 REV MODE
S314 DOBLY NR

Ð PRO C.B

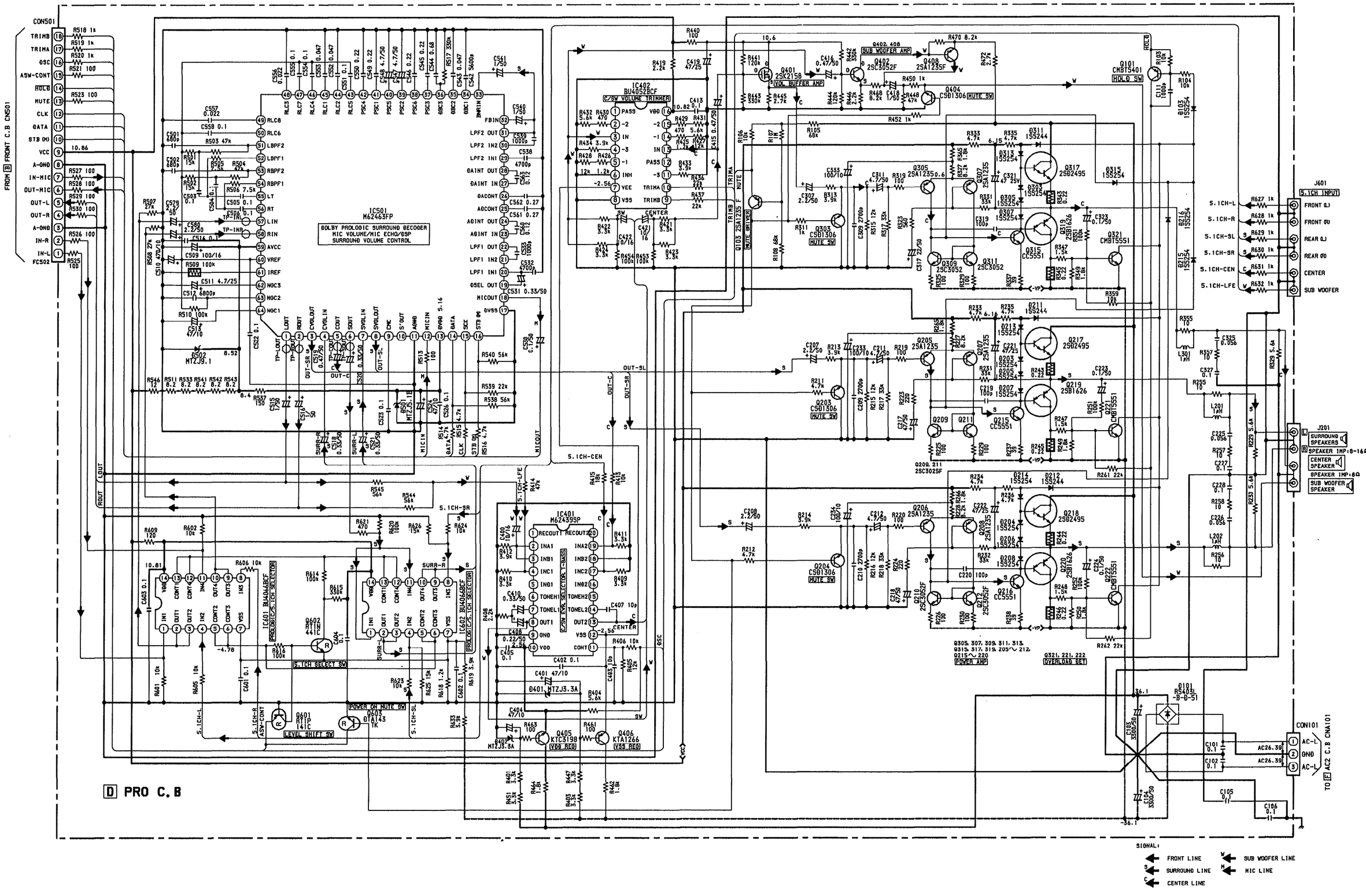
FROM B FRONT C.B
CN501
FC502
1817 15 13 11 9 7 5 3 1
TO CON501

FROM F AC2 C.B
RED MARK
CNA101
3 2 1

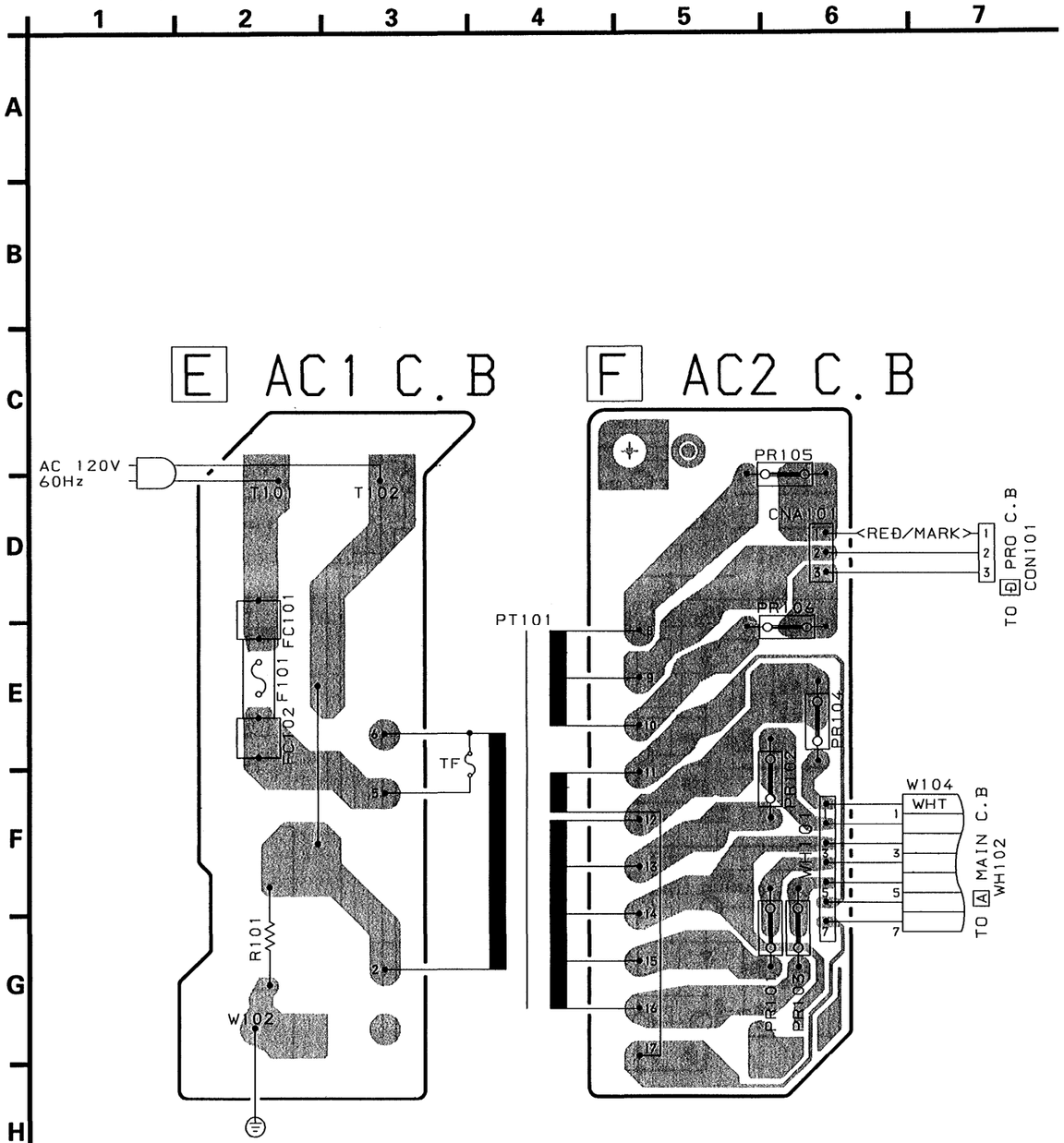
J601
5.1CH INPUT
R
FRONT (R)
FRONT (L)
L
R
REAR (R)
REAR (L)
L
CENTER
SUB WOOFER

R
J201
SURROUND SPEAKER
SPEAKER IMP: 8-16Ω
L
CENTER SPEAKER
SPEAKER IMP: 8Ω
SUB WOOFER SPEAKER

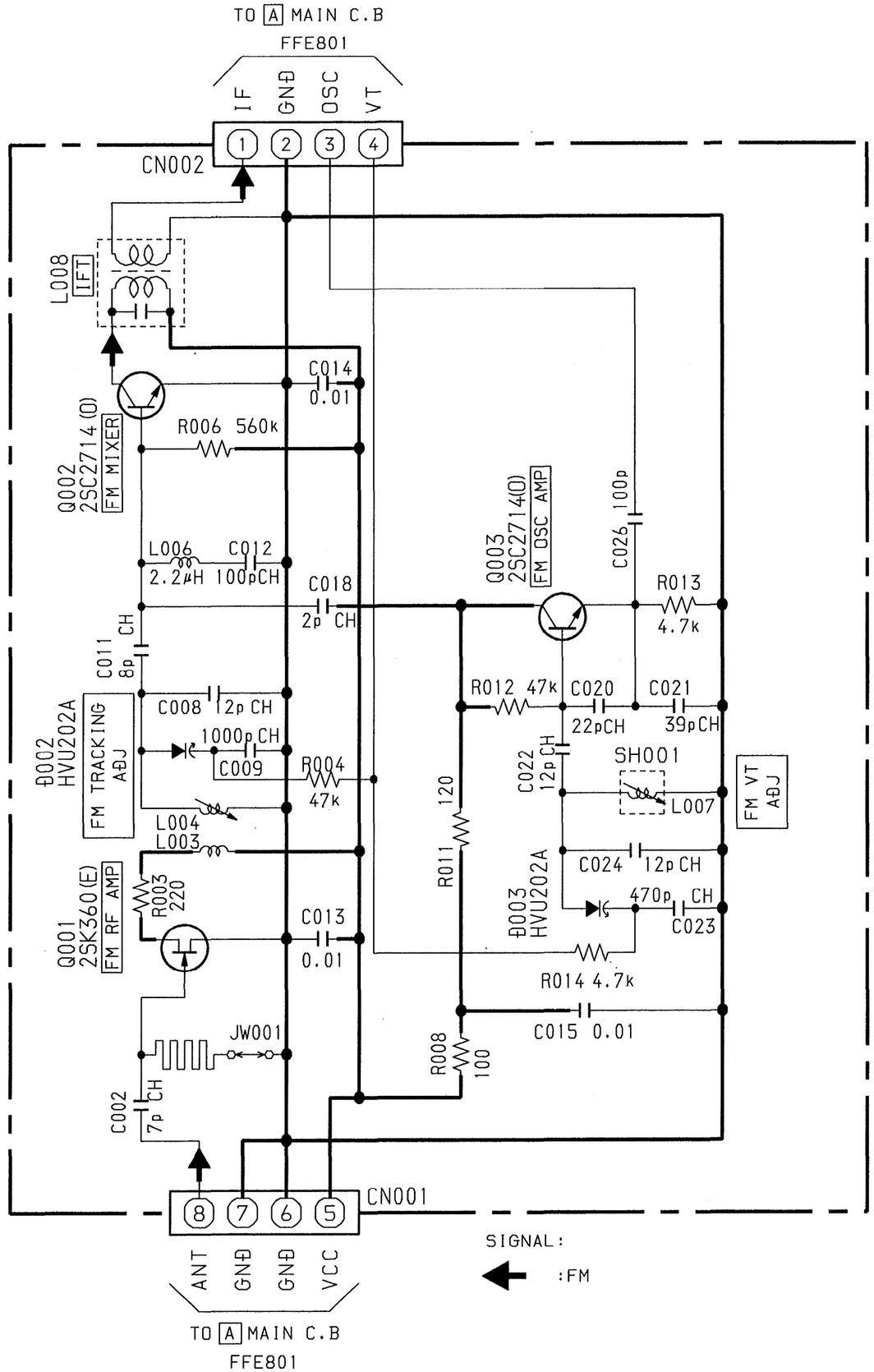
SCHEMATIC DIAGRAM – 3 (PRO)

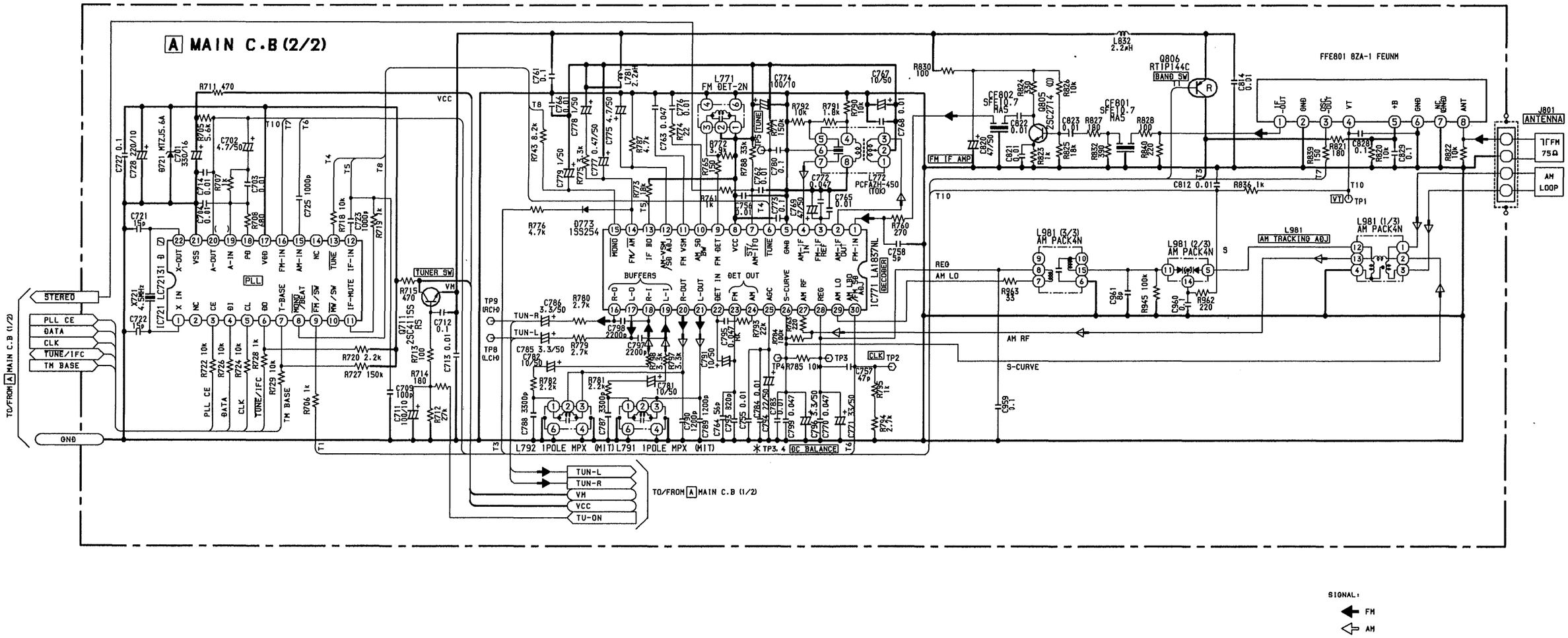


WIRING – 4 (AC1 / AC2)

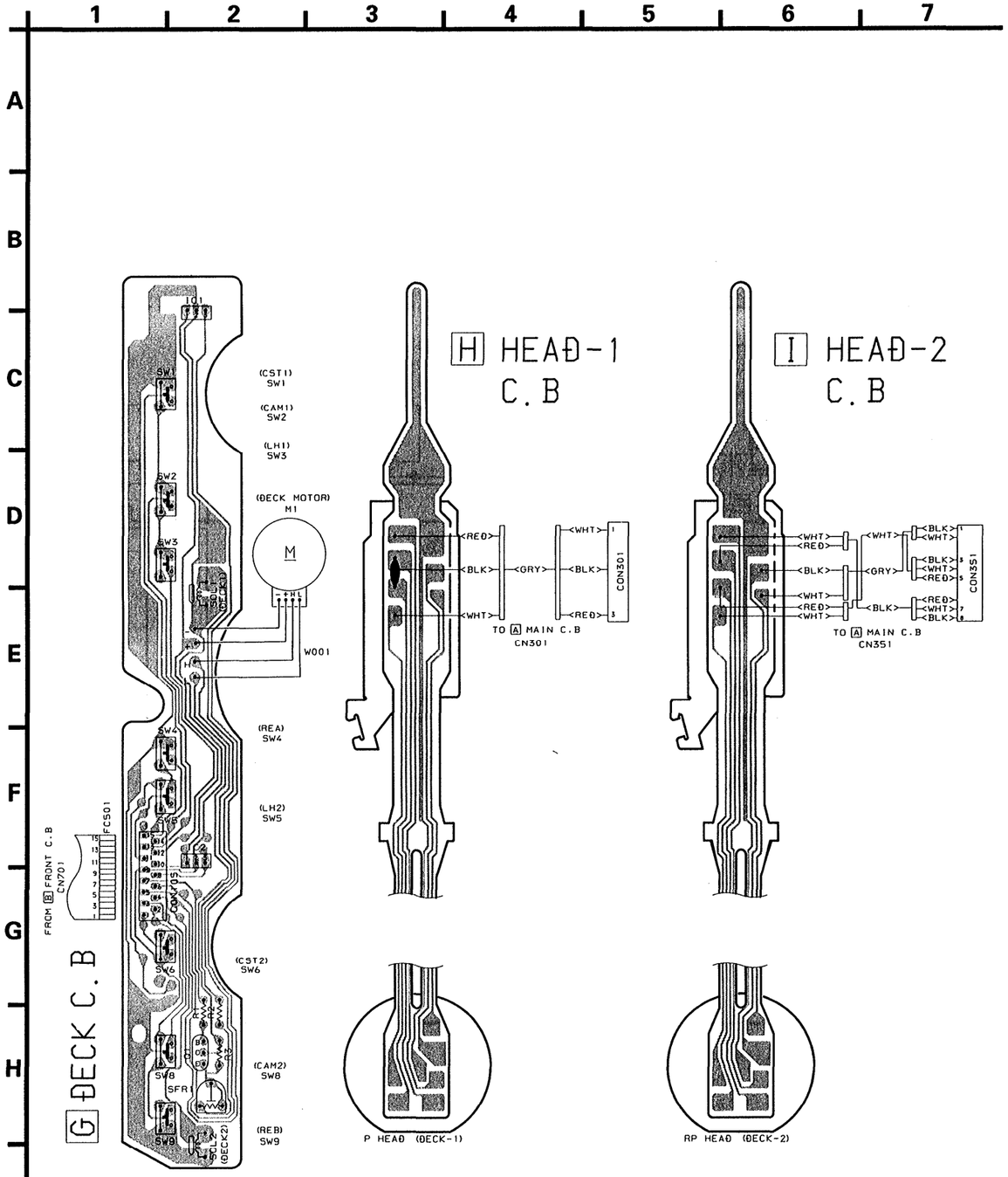


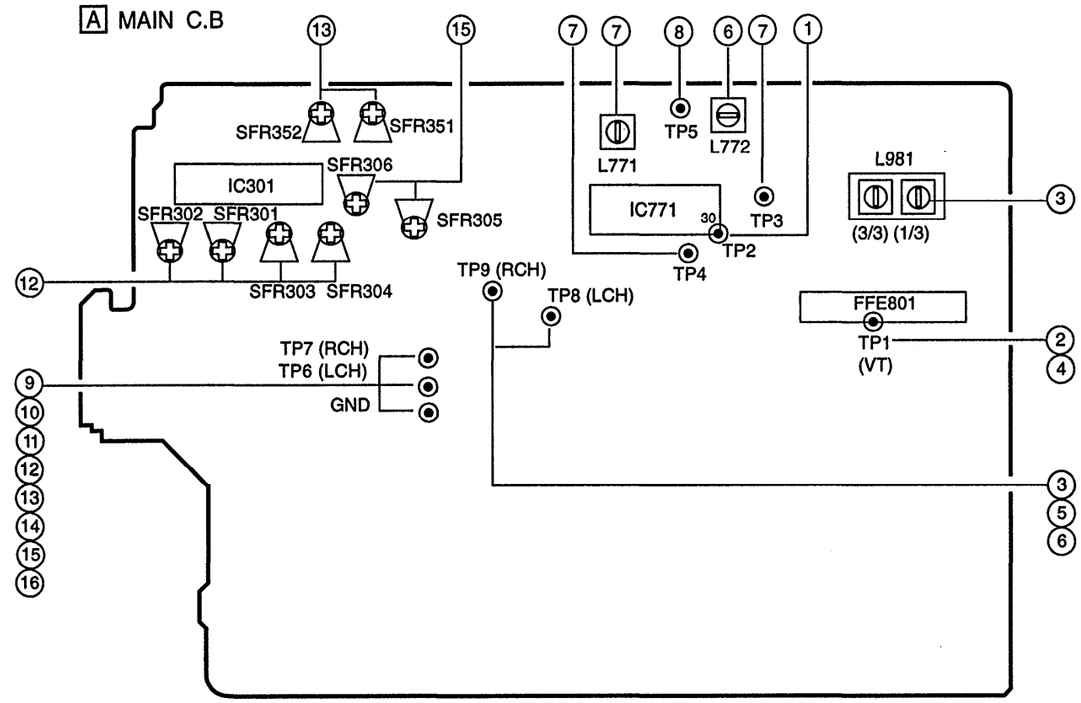
SCHEMATIC DIAGRAM – 4 (TUNER FRONT END)



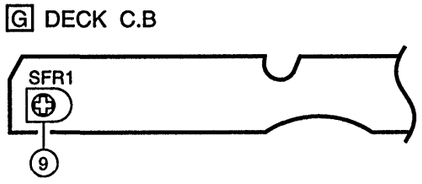

A MAIN C.B (2/2)
STEREO
PLL CE
DATA
CLK
TUNE/IFC
TM BASE
GND
TO/FROM A MAIN C.B (1/2)
PLL
IC721 LC72131
X-OUT
X IN
VSS
A-OUT
A-IN
PB
VBB
FM-IN
AM-IN
NC
TUNE
IF-IN
IF-MUTE
T-BASE
MONO/BEAT
FM/SW
AM/SW
BO
CE
DI
CL
DO
TUNER SW
VM
VCC
TUN-R
TUN-L
TP9 (RCH)
TP8 (LCH)
BUFFERS
R-O
L-O
R-I
L-I
R-OUT
L-OUT
DET IN
DET OUT
FM
AM
AGC
S-CURVE
REG
AM LO
AM RF
IC771 LA1837NL
DECODER
L771 FM DET-2N
L772 PCFA2H-450 (10K)
L792 1POLE MPX (MIT)
L791 1POLE MPX (MIT)
TP3, 4 DC BALANCE
TP1
TP2
TP3
TP4
CLK
FM IF AMP
Q806 RTIP144C
BAND SW
CE802 SFE10.7 MA5
CE801 SFE10.7 MA5
2SC2714
FFE801 8ZA-1 FEUNM
-IF-OUT
GND
-IF-OUT
VT
+B
GND
NF GND
ANT
J801 ANTENNA
FM 75Ω
AM LOOP
L981 (3/3) AM PACK4N
L981 (2/3) AM PACK4N
L981 (1/3) AM PACK4N
L981 AM TRACKING ADJ
REG
AM LO
AM RF
S-CURVE
TUN-L
TUN-R
VM
VCC
TU-ON
TO/FROM A MAIN C.B (1/2)

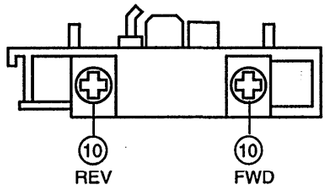
SIGNAL:
- FM
- AM





DECK-1 P, DECK-2 R/P/E HEAD





< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2
   Method : Set to AM 1710kHz and check that the test point is 2160kHz ± 45Hz.

2. AM VT Check
   Settings : • Test point : TP1
   Method : Set to AM 1710kHz and AM 530kHz and check that the test point is less than 8.5V(1710kHz) and more than 0.6V(530kHz).

3. AM Tracking Adjustment
   Settings : • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location :
   L981(1/3) 1000kHz
   Method : Set to AM 1000 kHz and adjust L981 (1/3) to MAX.

4. FM VT Check
   Settings : • Test point : TP1
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V.
   Set to FM 87.5MHz and check that the test point is more than 0.5V.

5. FM Tracking Check
   Settings : • Test point : TP8(Lch), TP9(Rch)
   Method : • Set to FM 98.0MHz and check that the test point is less than 9.0dB.

6. AM IF Adjustment
   Settings : • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location :
   L772 ..... 450kHz

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4
   • Adjustment location : L771
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%

8. Auto Stop Level Check
   AM
   Settings : • Test point : TP5
   • Input level : 52dB
   Method : Set to AM 1000kHz and check that the auto stop is at 52dB +10dB / -15dB.

   FM
   Settings : • Test point : TP5
   • Input level : 25dB
   Method : Set to FM 98.0MHz and check that the auto stop is at 25dB ± 10dB.

< DECK SECTION >

9. Tape Speed Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA-100
   • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

10. Head Azimuth Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA-300
    • Test point : TP6(Lch), TP7(Rch)
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back (FWD) the 10kHz signal of the test tape and adjust screw so that the output becomes maximum.
    Next, perform on REV PLAY mode.

11. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA-300
    • Test point :TP6(Lch), TP7(Rch)
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is within 2dB.

12. PB Sensitivity Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA-200
    • Test point : TP6(Lch), TP7(Rch)
    • Adjustment Location : SFR301 (DECK1,Lch)
    SFR302 (DECK1,Rch)
    SFR303 (DECK2,Lch)
    SFR304 (DECK2,Rch)
    Method : Play back the test tape and adjust SFRs so that the output level at TP6,TP7 becomes 245mV± 10mV.

13. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA-602
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz / 10kHz (LINE IN)
    • Adjustment location : SFR351 (Lch)
    SFR352 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 17mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

14. REC/PB Frequency Response Check
    Settings : • Test tape : TTA-615
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz / 10kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 17mV. Record and play back the 1kHz and 10kHz signals and check that the output is 0dB ± 2dB.

15. REC/PB Sensitivity Adjustment
    Settings : • Test tape : TTA-602
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz (LINE IN)
    • Adjustment location : SFR305 (Lch)
    SFR306 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 170mV. Record and play back the 1kHz signals and adjust SFRs so that the output of the 1kHz signals becomes 0 ± 0.5dB.

16. REC/PB Sensitivity Check
    Settings : • Test tape : TTA-615
    • Test point : TP6(Lch), TP7(Rch)
    • Input signal : 1kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP6, TP7 becomes 170mV. Record and play back the 1kHz signals and check that the output is 0 ± 1.5dB.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	Less than 10 / 9 / 9dB
(THD 3%)	[at 87.5 / 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity :	
	Less than 35dB
	[at 98.0MHz]
Signal to noise ratio :	Mono : More than 72dB
	Stereo : More than 66dB
	[at 98.0MHz]
Distortion :	Mono : Less than 1.2%
	Stereo : Less than 2.0%
	[at 98.0MHz]
Auto stop level :	25dB ± 10dB [at 98.0MHz]
Stereo separation :	More than 30dB [at 98.0MHz]
Intermediate frequency :	10.7MHz

<MW SECTION>

Sensitivity :	Less than 60dB
(S/N 20 dB)	[at 600kHz]
	Less than 58dB
	[at 1000kHz]
	Less than 58dB
	[at 1400kHz]
Signal to noise ratio :	More than 36dB
	[at 1000kHz]
Distortion :	Less than 1.5%
	[at 1000kHz]
Auto stop level :	52dB +10/-15dB
	[at 1000kHz]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.15%
	(W.R.M.S)
Take-up torque :	30 ~ 55g-cm
	(FWD, REV)
F.F torque :	75 ~ 160g-cm
REW torque :	75 ~ 160g-cm
Back tension :	2 ~ 7g-cm
	(FWD, REV)
PB output level :	300mV± 1dB
	(SP OUT 2V)
REC/PB output level :	-3.0dB ± 1dB (NORM)
	-3.5dB ± 1dB (CrO_2)
	(SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0%
	(NORM, CrO_2)
Noise level (PB) :	Less than 2.0mV
	(NORM, SP OUT 2V)
Noise level (REC/PB) :	Less than 3.0mV
	(NORM, SP OUT 2V)
Erasing ratio :	More than 60dB
	(at 125Hz, +10VU)
Test tape :	TTA-602 (NORMAL)
	TTA-615 (CrO_2)

IC DESCRIPTION

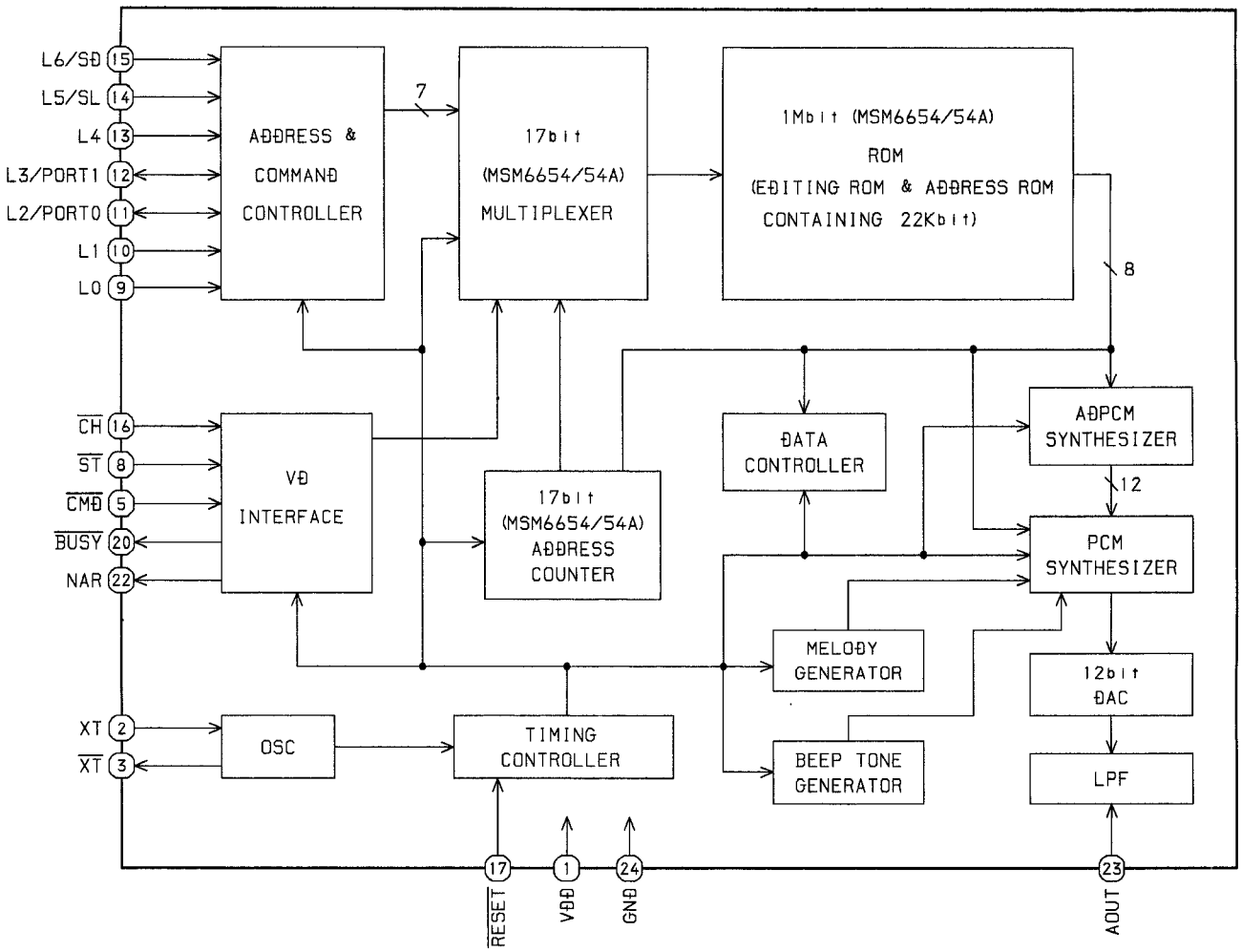
IC, LC866560W-5H26

Pin No.	Pin Name	I/O	Description
1	CLK	O	CLOCK output for MAIN,FRONT PWB.
2	DATA	O	DATA output for MAIN, FRONT PWB.
3	STB	O	Latch strobe output for MAIN PWB.
4	$\overline{\text{O-LED}}$	O	LED $\overline{\text{ON}}$/OFF output.
5	STB (SHIFT)	O	Latch strobe output for FRONT shift register.
6	$\overline{\text{RESET}}$ (GAME)	I	Reset input for Sound IC.
7	STB (GAME)	O	Latch strobe output for Sound IC.
8	I-NAR (GAME)	I	Sound IC NAR input.
9	PLL-CE	O	PLL IC chip enable output.
10	O-DSC	O	Serial data output for PROLOGIC PWB.
11	$\overline{\text{I-MIC}}$	I	Microphone input for AUTO VF display.
12	$\overline{\text{RESET}}$	I	Reset input.
13	$\overline{\text{I-HP-MUTE}}$	I	Headphone input for MUTE by PROLOGIC.
14	I-DISH	I	CD turntable photo sensor A/D converter input.
15	VSS 1	–	GND.
16	CF 1	–	5.76MHz oscillator circuit.
17	CF 2	–	
18	VDD 1	–	Power supply input.
19	$\overline{\text{HOLD}}$	I	Power failure detection input."H" normal operation,"L" main power cannot be turned on.
20	KEY-1	I	KEY input.(A/D)
21	KEY-2	I	
22	KEY-3	I	
23	I-CD SW	I	CD mechanical switch A/D converter input.
24	I-JOG	I	JOG dial A/D level input.
25	I-TU-SIG/$\overline{\text{MS}}$	I	Tuner signal and deck music sensor signal input.
26	I-SPEANA	I	A/D input for spectrum analyzer display.
27	I-WRQ/RDS-CLK	I	CD WRQ input. TUNER RDS CLOCK input.
28	I-TM-BASE	I	REFERENCE CLOCK input for timer watch.
29	$\overline{\text{I-RMC}}$	I	System remote control signal input.
30~41	G13~G2	O	FL GRID output G2~G13.
42, 43	P36, P35	O	FL SEGMENT output P35, P36.
44	G1	O	FL GRID output G1.
45	P34	O	FL SEGMENT output P34.
46	VDD3	–	Power supply input.
47	SPEANA-A/P33	O	Spectrum analyzer band switching output /FL segment P33 output.
48	SPEANA-B/P32	O	Spectrum analyzer band switching output /FL segment P32 output.
49	SPEANA-C/P31	O	Spectrum analyzer band switching output /FL segment P31 output.
50	P30/$\overline{\text{GAME}}$	I/O	FL segment P30 output / GAME input to diode.
51	VP	–	Power supply input for FL display.
52	P29/AM-ST	I /O	FL segment P29 output / AM-ST input to diode.
53	P28/LW	I/O	FL segment P28 output / LW input to diode.
54	P27/SW	I/O	FL segment P27 output / SW input to diode.

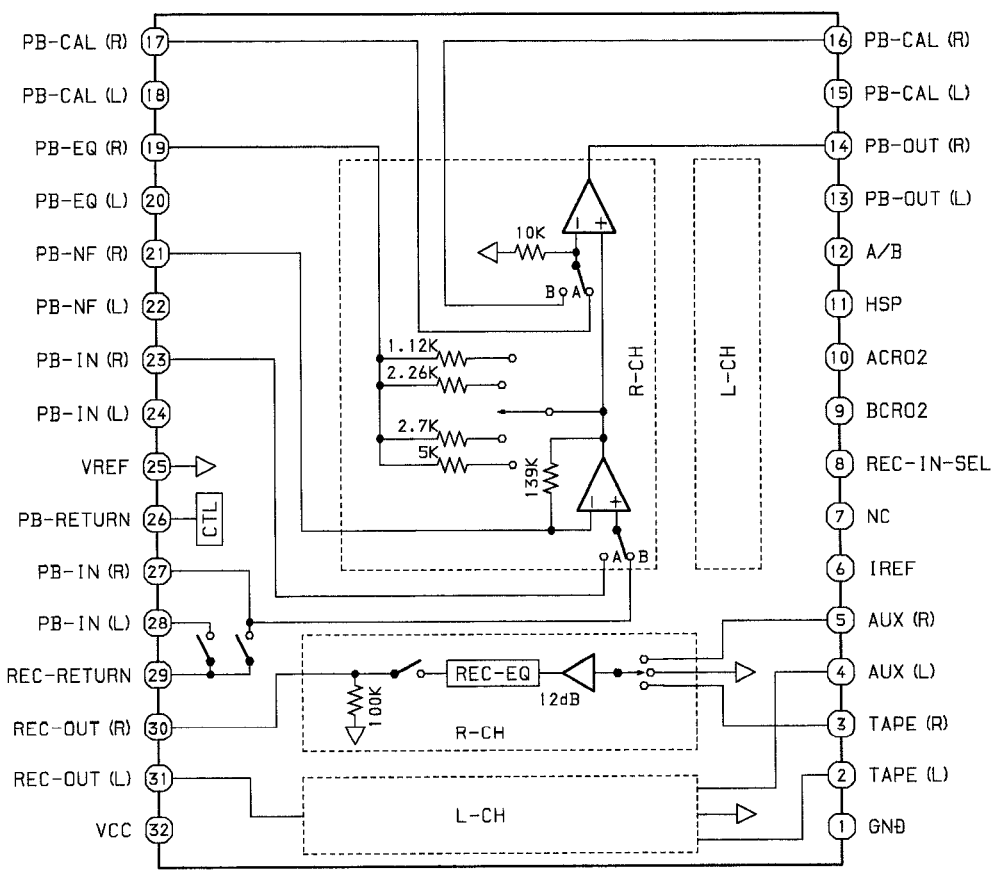
Pin No.	Pin Name	I/O	Description
55	P26/FM 1	I/O	FL segment P26 output / FM1 (OIRT) input to diode.
56	P25/RDS	I/O	FL segment P25 output / RDS input to diode.
57	P24/R+1	I/O	FL segment P24 output / RVS+1 way input to diode.
58	P23/$\overline{\text{DSP}}$	I/O	FL segment P23 output / $\overline{\text{DSP}}$ input to diode.
59	P22/D-SURR	I/O	FL segment P22 output / SURR input to diode.
60	P21/K-CON	I/O	FL segment P21 output / K-CON input to diode.
61	P20/$\overline{\text{DOLBY}}$	I/O	FL segment P20 output / DOLBY input to diode.
62	P19/5.1CH	I/O	FL segment P19 output / 5.1CH input to diode.
63	P18/AM10K	I/O	FL segment P18 output / AM 10kHz input to diode.
64	P17/$\overline{\text{CST 2}}$	I/O	FL segment P17 output / DECK2 cassette detect switch data input.
65	P16/$\overline{\text{REB}}$	I/O	FL segment P16 output / DECK2 side-B record OK switch data input.
66	P15/$\overline{\text{CAM 2}}$	I/O	FL segment P15 output / DECK2 CAM switch data input.
67	P14/AUTO 1	I/O	FL segment P14 output / DECK1 AUTO stop signal input.
68	P13/AUTO 2	I/O	FL segment P13 output / DECK2 AUTO stop signal input.
69	P12/$\overline{\text{CAM 1}}$	I/O	FL segment P12 output / DECK1 CAM switch data input.
70	P11/$\overline{\text{CST 1}}$	I/O	FL segment P11 output / DECK1 cassette detect switch data input.
71	P10/$\overline{\text{REA}}$	I/O	FL segment P10 output / DECK2 side A record OK switch data input.
72	VDD 4	–	Power supply input.
73 ~ 81	P9 ~ P1	O	FL segment P1 ~ P9 output.
82	O-KSCAN	O	Switch SCAN timing output.
83	$\overline{\text{TRAY-CLS}}$	O	CD TRAY CLOSE data output.
84	$\overline{\text{TRAY-OPEN}}$	O	CD TRAY OPEN data output.
85	DISH-FWD	O	CD turntable forward rotation output.
86	DISH-RVS	O	CD turntable reverse rotation output.
87	COMMAND	O	CD command output.
88	O-CDCLK	O	CD clock output.
89	VSS2	–	GND.
90	VDD2	–	Power supply input.
91	$\overline{\text{O-POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
92	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$ output.
93	$\overline{\text{SOL 1}}$	O	DECK 1 solenoid output.
94	$\overline{\text{SOL 2}}$	O	DECK 2 solenoid output.
95	O-MOTOR	O	DECK MOTOR ON/$\overline{\text{OFF}}$ output.
96	I-IFC/$\overline{\text{STEREO}}$/ STATUS	I	Tune IF count serial data input / stereo detected input / CD status data input.
97	I-$\overline{\text{STEREO}}$/ DRF(SQCLK)	I/O	Tuner stereo detected input / CD SQ CLOCK output.
98	I-RDS-DATA/ O-CDCE	I/O	RDS data input / CD chip enable output.
99	RT-A	I	Rotary encoder A input.
100	RT-B	I	Rotary encoder B input.

IC BLOCK DIAGRAM

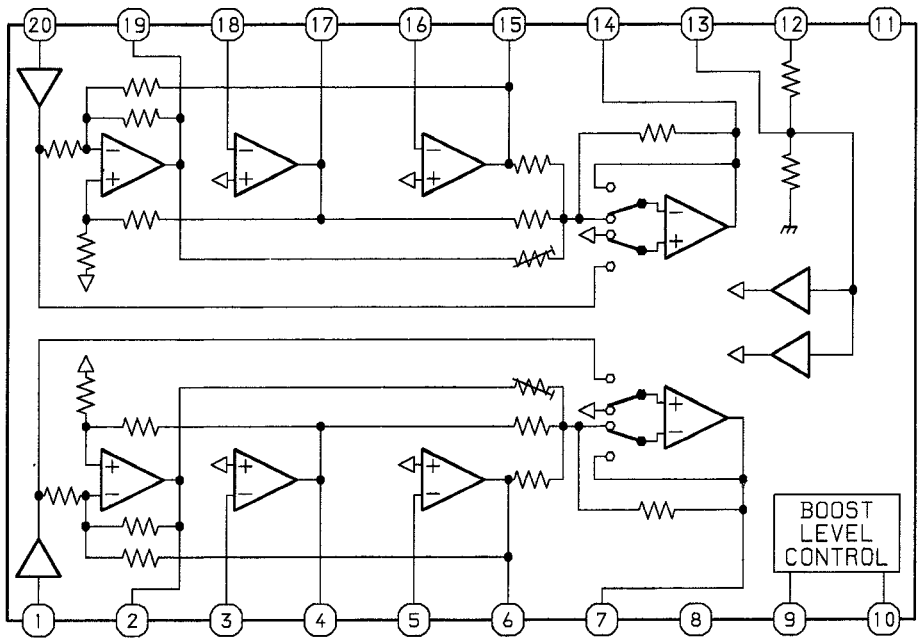
IC, MSM6654A-521GS-KRI



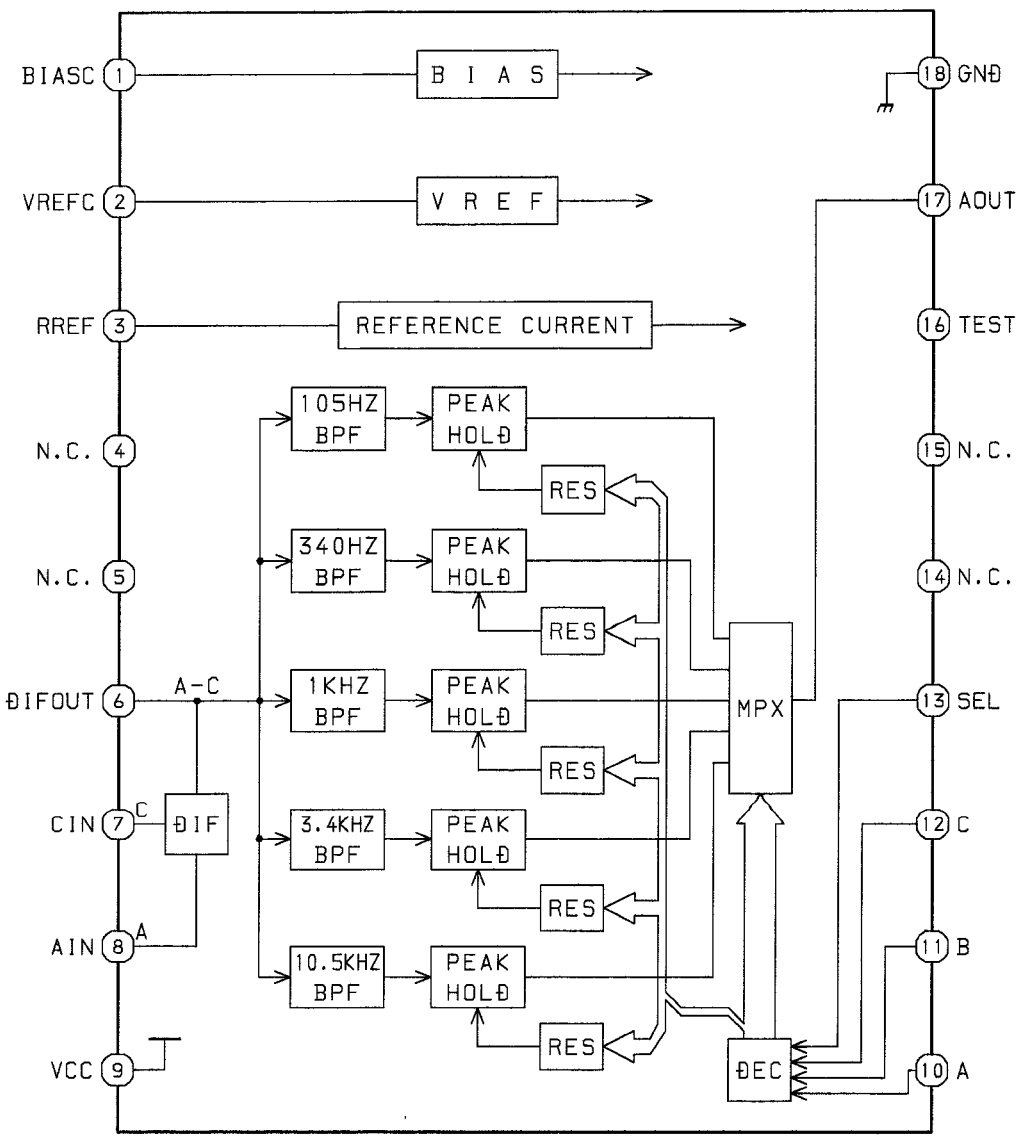
IC, BA7762AFS



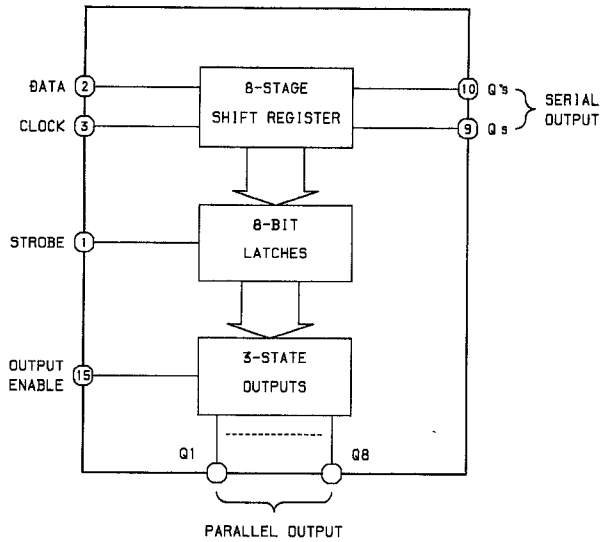
IC, NJM2152M



IC, BA3835S



IC, BU4094BCF



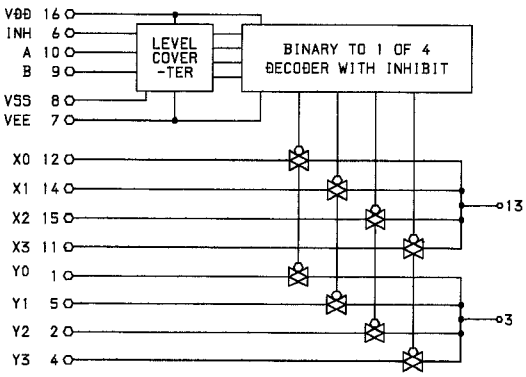
TRUTH TABLE

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	Qs	Q's
↑	L	X	X	Z	Z	Q7	NO Chg.
↓	L	X	X	Z	Z	No Chg.	Qs
↑	H	L	X	No Chg.	No Chg.	Q7	No Chg.
↑	H	H	L	L	Qn-1	Q7	No Chg.
↑	H	H	H	H	Qn-1	Q7	No Chg.
↓	H	X	X	No Chg.	No Chg.	No Chg.	Qs

Z=High Impedance

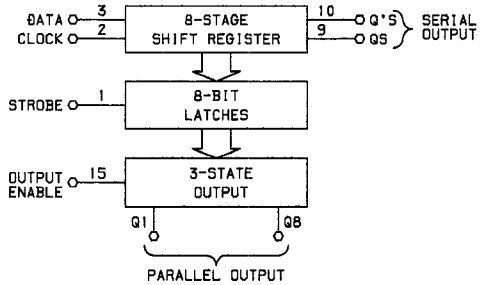
X=Don't Care

IC, BU4052BCF

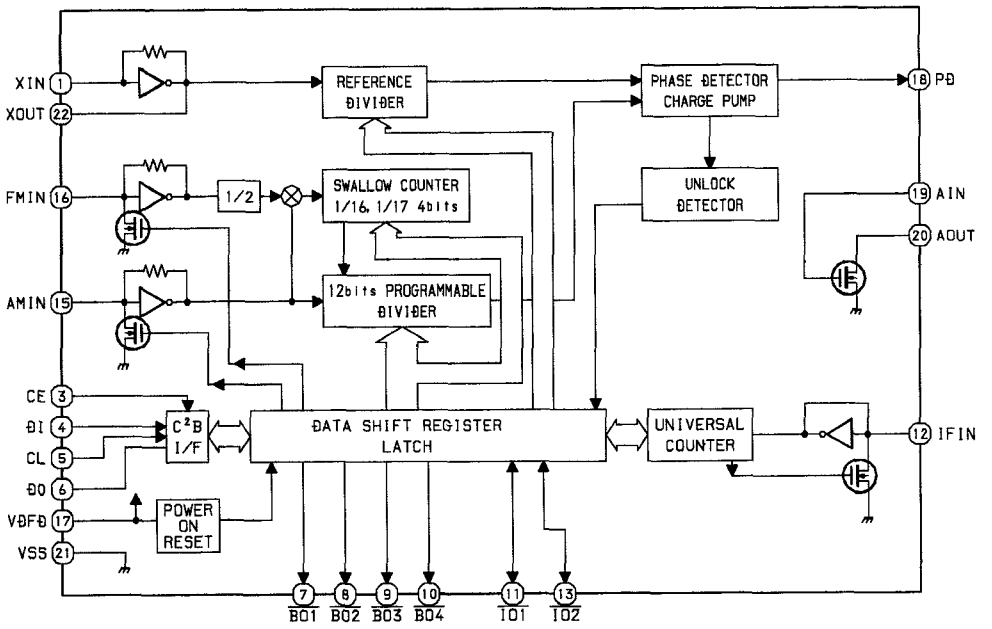


TRUTH TABLE

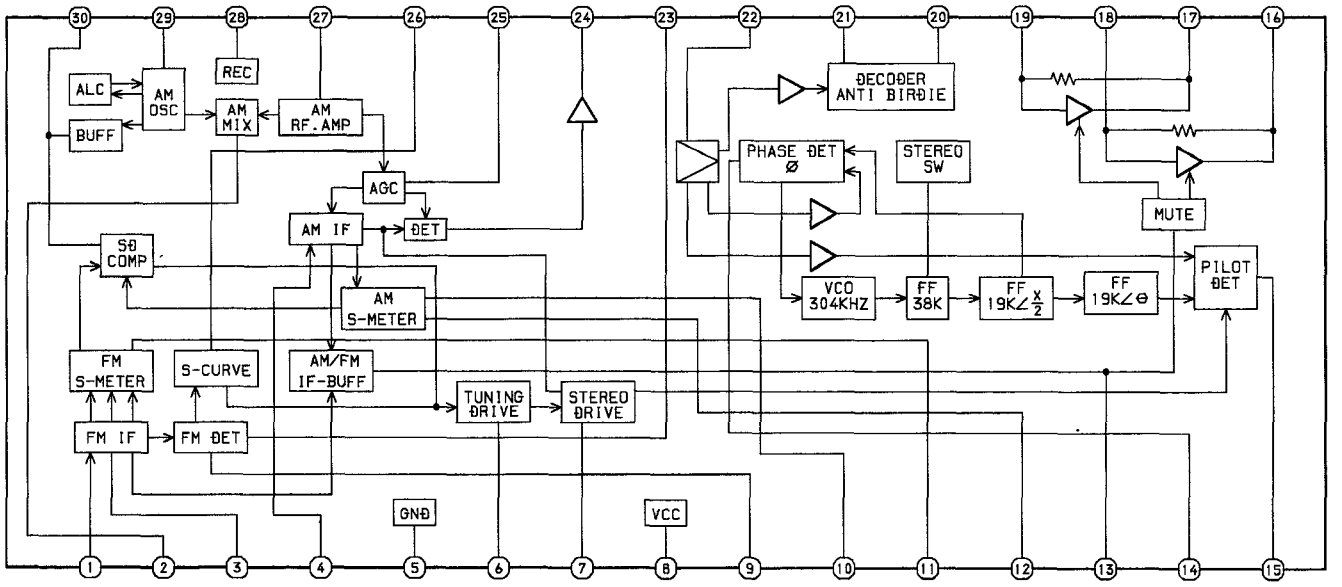
INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE



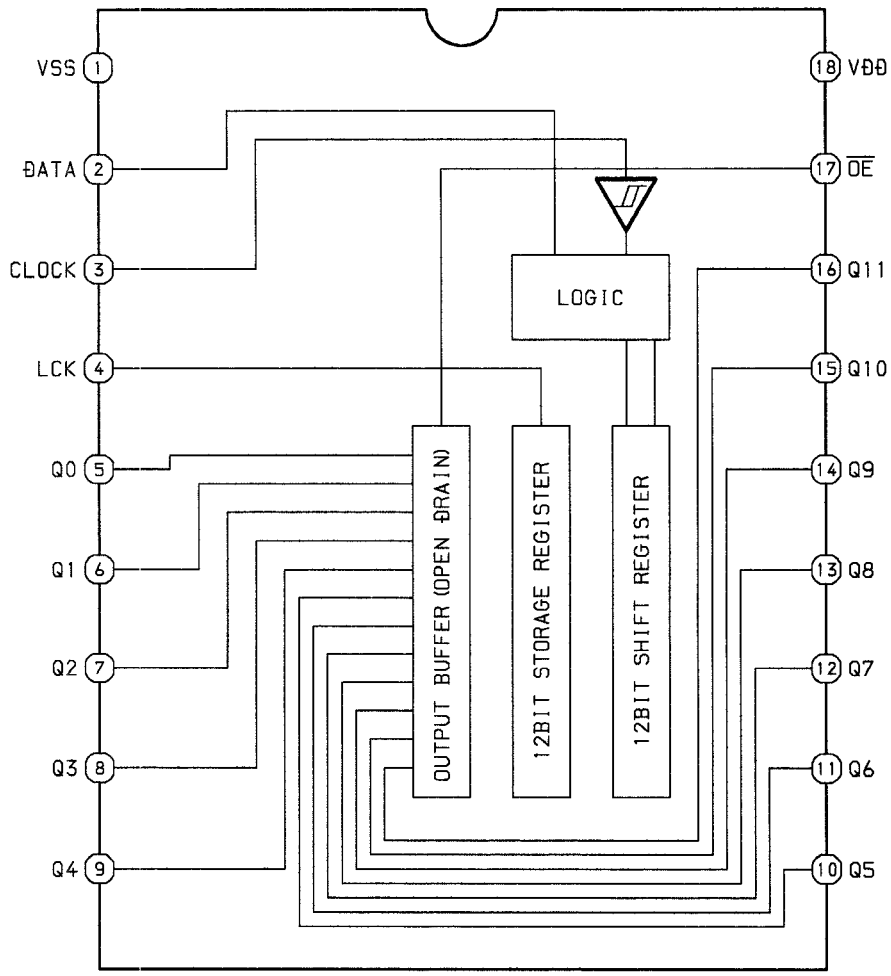
IC, LC72131D



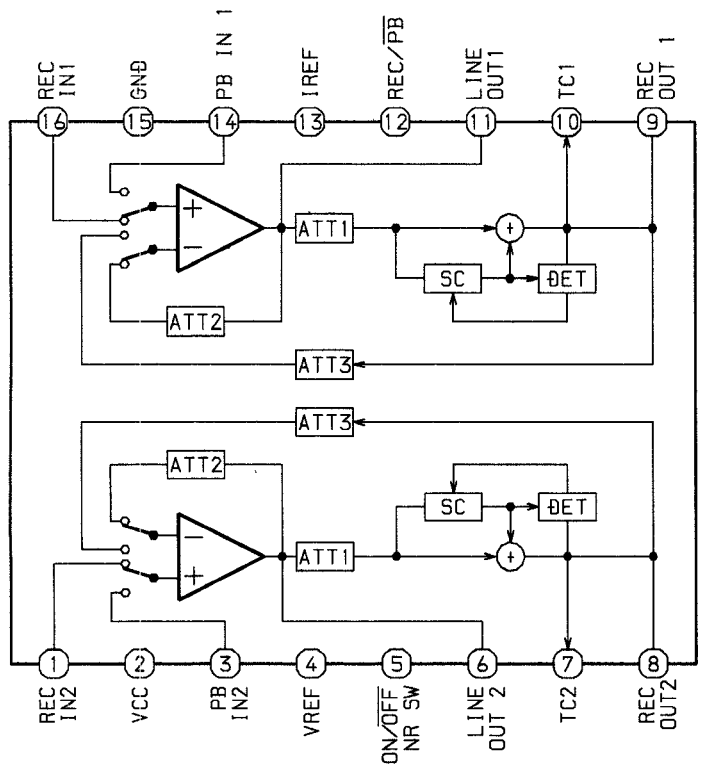
IC, LA1837



IC, BU2092F

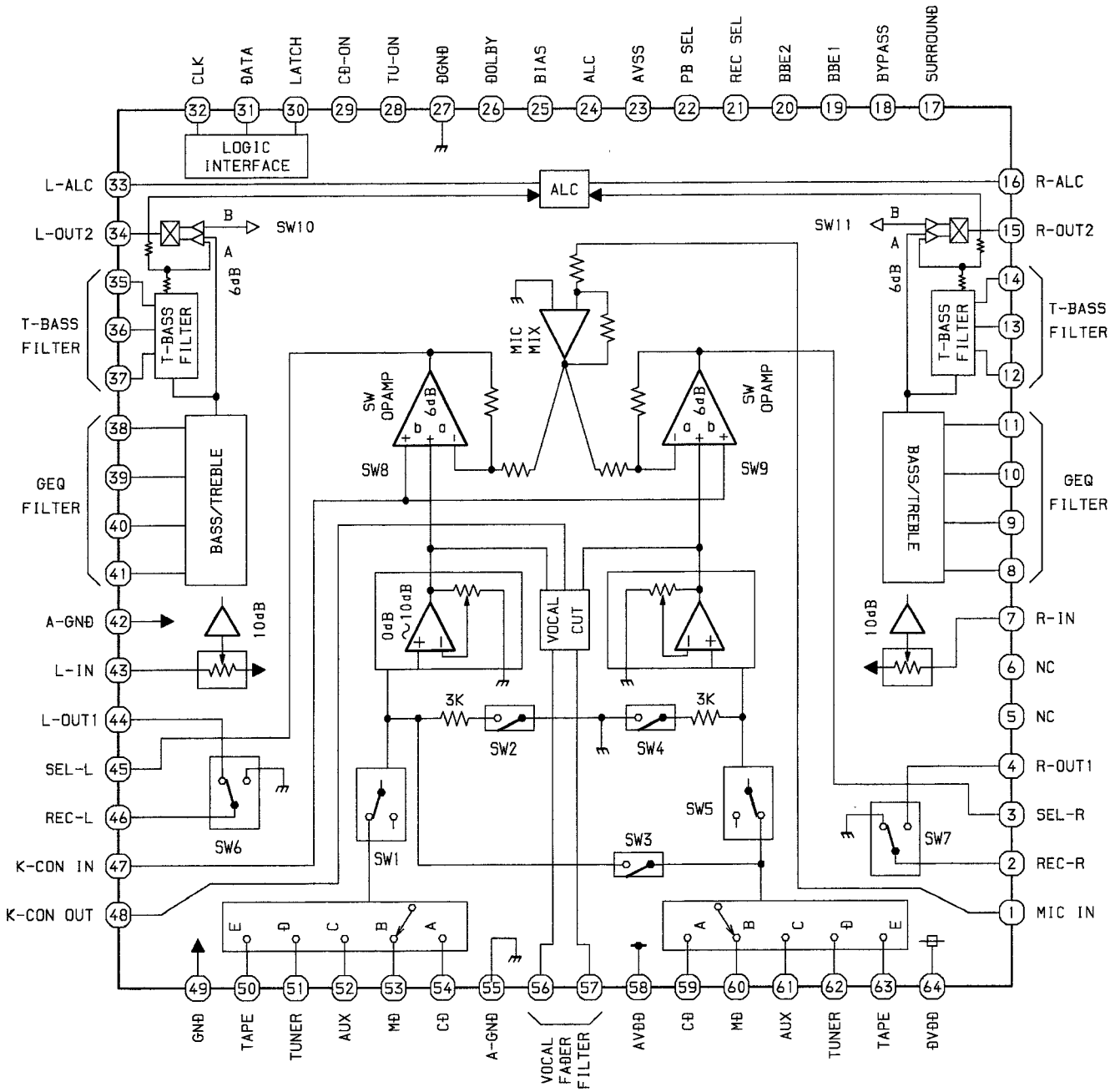


IC, CXA1553P

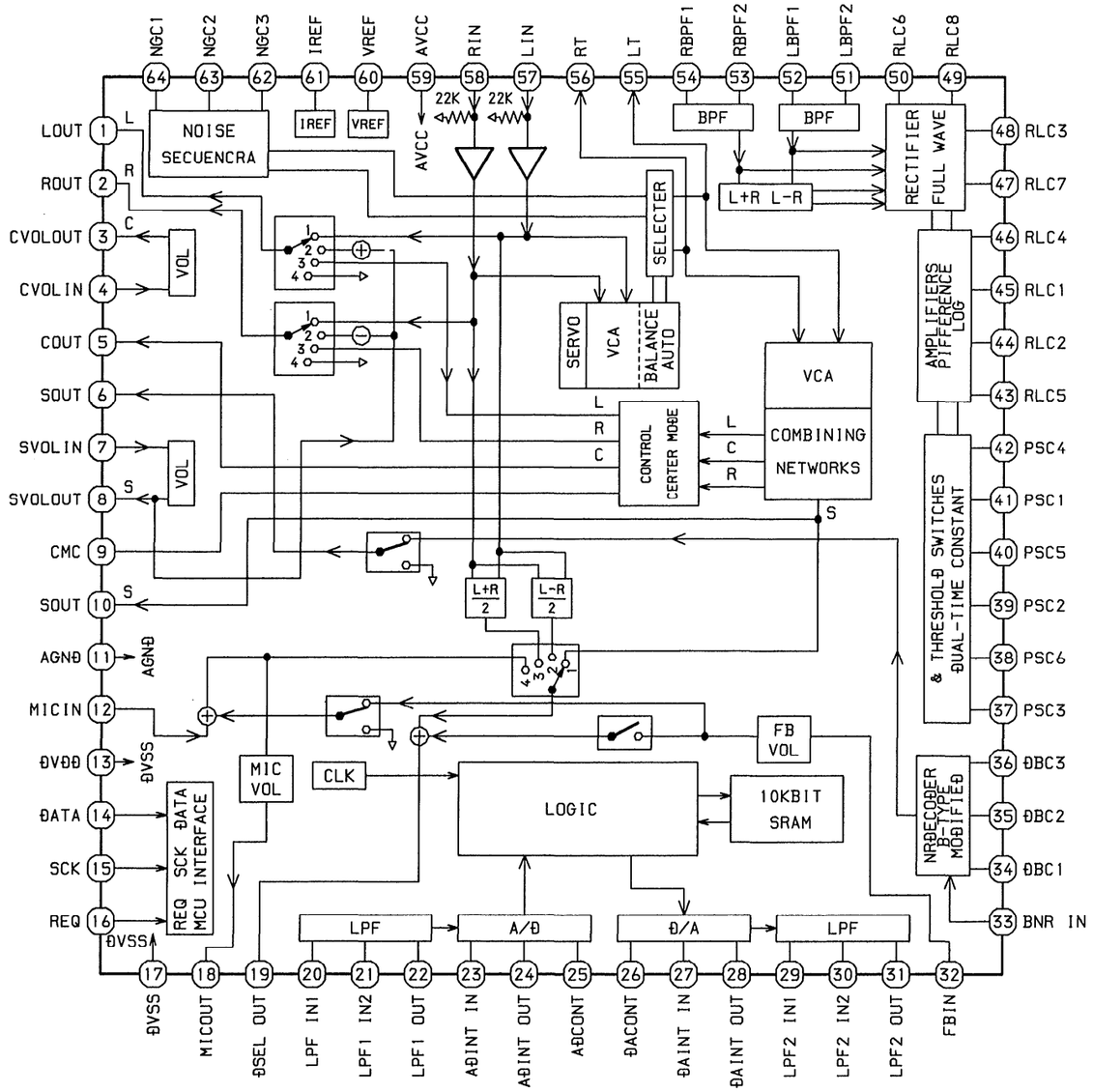


ATT:Attenuator
SC:Side Chain
ÐET:Ðetector

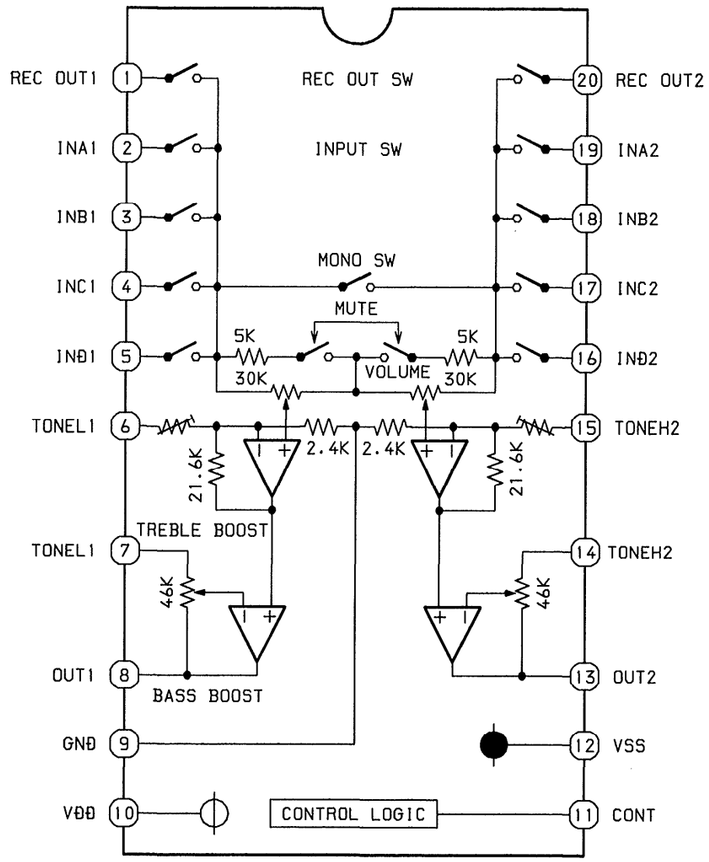
IC, M62445FP-601



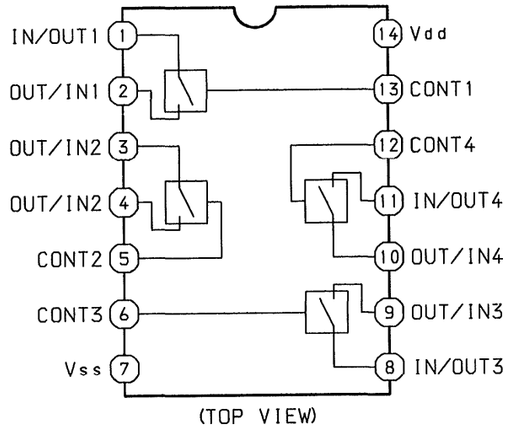
IC, M62463FP-B



IC, M62439SP



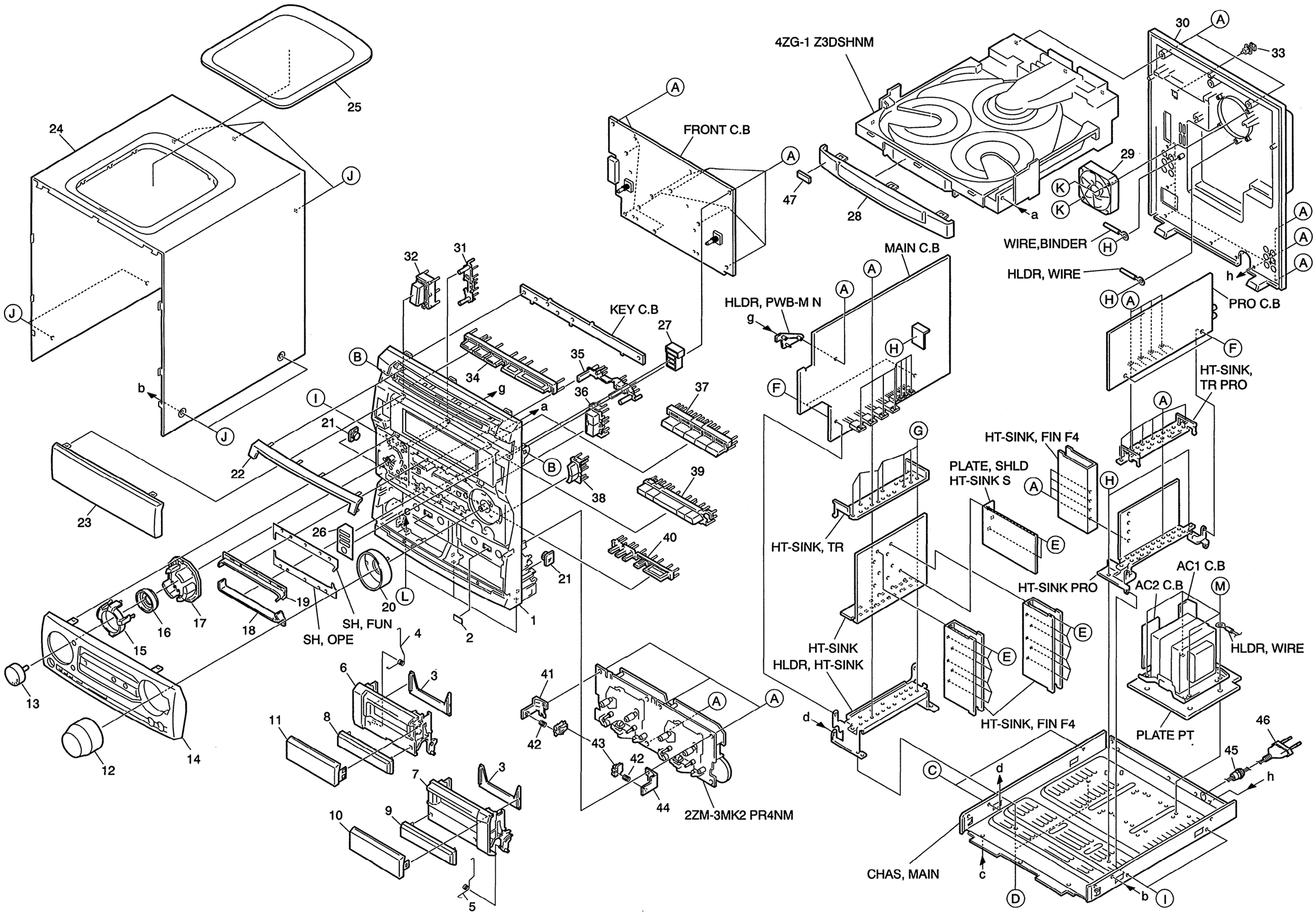
IC, BU4066BCF



TRUTH TABLE

CONTROL	Impedance Between IN/OUT-OUT/IN
H	$0.5\sim5\times10^2\Omega$
L	$> 10^2\Omega$

MECHANICAL EXPLODED VIEW 1 / 1

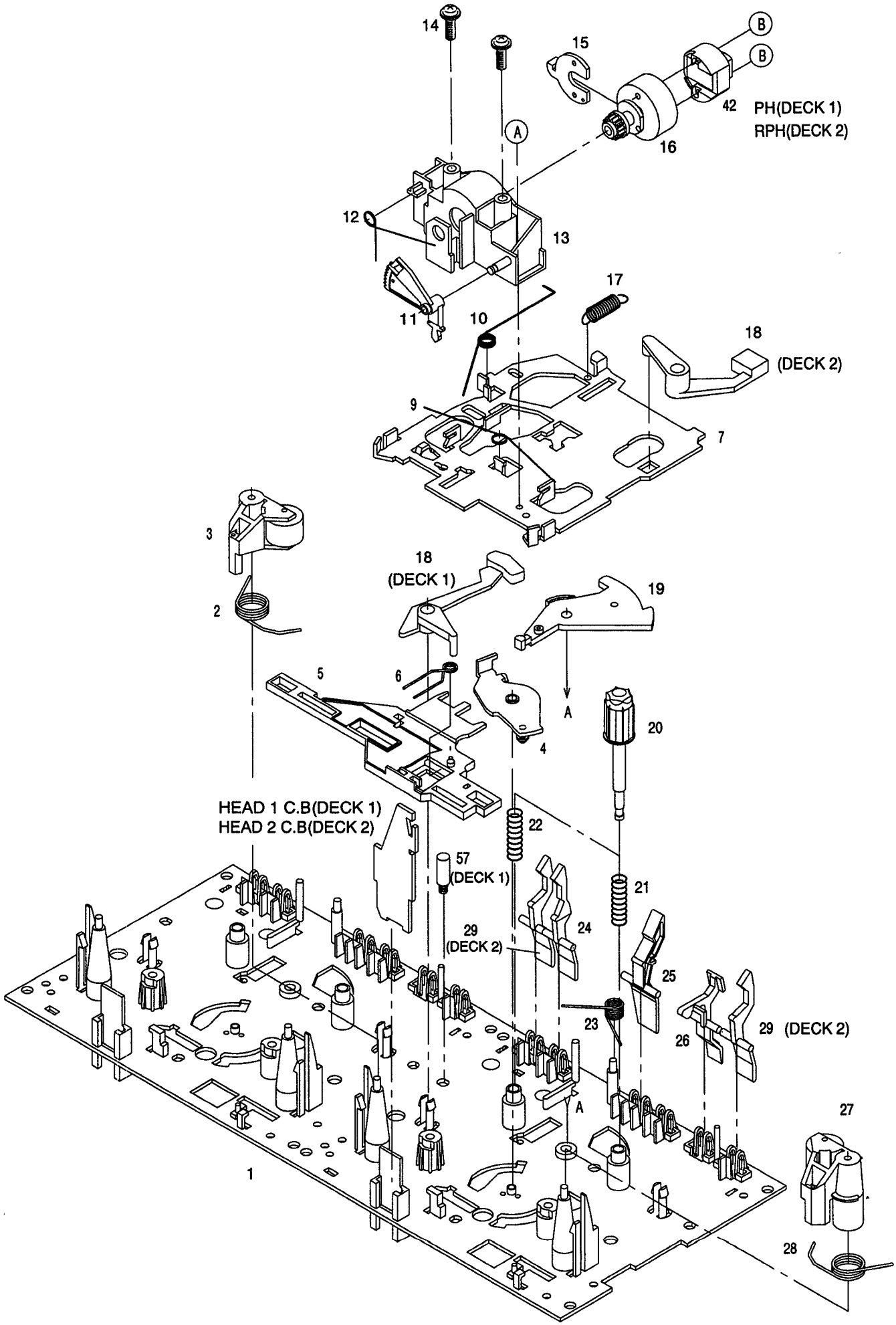


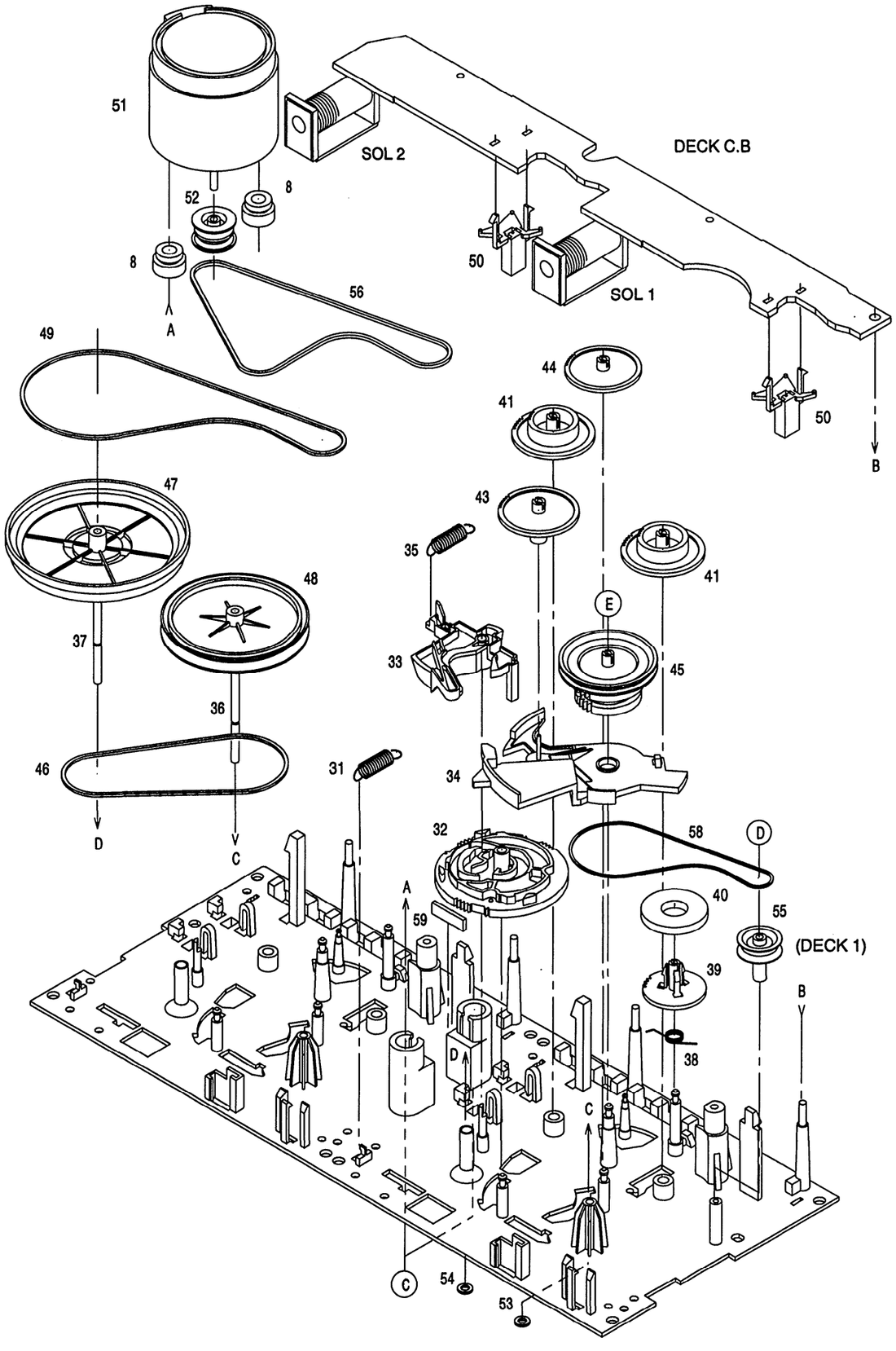
MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-NFS-006-010		CABI,FR U
2	81-532-080-010		LABEL, CASS. COMPT
3	86-NF6-061-010		REFLECTOR,CASS
4	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
5	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
6	88-NF5-004-010		BOX,CASS 1U
7	88-NF5-005-010		BOX,CASS 2U
8	88-NF5-038-010		PANEL,CASS 1U
9	88-NF5-039-010		PANEL,CASS 2U
10	88-NF5-019-010		WINDOW,CASS 2
11	88-NF5-018-010		WINDOW,CASS 1
12	88-NF5-021-010		KNOB,RTRY VOL
13	88-NF5-022-110		KNOB,RTRY JOG
14	88-NFS-008-010		PANEL,FR U
15	88-NF5-043-010		PANEL,DSP
16	88-NF5-029-010		REFLECTOR,JOG
17	88-NF5-028-010		KEY,ENTER
18	88-NF5-030-010		REFLECTOR,OPE
19	88-NF5-031-010		REFLECTOR,FUN
20	88-NF5-032-010		RING,VOL
21	87-NF8-220-010		DMPR,150
22	88-NF5-017-010		PANEL,CD
23	88-NFS-003-010		WINDOW,DISP U
24	88-NF5-008-010		CABI,STEEL S
25	86-NF6-101-010		WINDOW TOP UL
26	88-NFS-002-010		PLATE,PRO
27	88-NFS-201-010		GUIDE,PRO
28	88-NF5-009-010		PANEL,TRAY U
29	87-A90-796-010		FAN,F614R-12MC-15-300MM
30	88-NFS-061-010		CABI,REAR USTNM
31	88-NF5-048-010		KEY,TIMER
32	88-NF5-035-010		KEY,POWER
33	84-ZG1-245-210		CAP,OPTICAL
34	88-NF5-041-010		KEY,ASSY CD
35	88-NF5-027-010		KEY,DEMO
36	88-NF5-025-010		KEY,BBE
37	88-NFS-012-010		KEY,FUN 5.1
38	88-NF5-026-010		KEY,MIC
39	88-NF5-024-010		KEY,OPE
40	88-NFS-001-010		KEY,PRO
41	87-NF4-216-010		HLDR,LOCK 1
42	86-NF9-224-010		SPR-C,LOCK
43	82-NF5-229-010		PLATE,LOCK
44	87-NF4-217-010		HLDR,LOCK 2
45	87-085-189-010		BUSHING, CORD (U)
⚠ 46	87-050-053-010		AC CORD ASSY,U-2
47	82-NE6-067-010		BADGE,AIWA 30N
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-721-097-410		QT2+3-12 GLD
C	87-591-094-410		TAPPING SCREW, QIT+3-6
D	87-067-584-010		TAPPING SCREW, BVT2+3-6
E	87-B10-090-010		BVIT3B+3-12 GOLD
F	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
G	87-067-758-010		BVT2+3-12 W/O SLOT
H	87-067-579-010		TAPPING SCREW, BVT2+3-8
I	87-723-096-410		QT2+3-10W/O SLOT BL
J	87-067-641-010		UTT2+3-8(W/O SLOT)BL
K	87-067-822-010		BVT2+3-20 W/O SLOT
L	87-067-688-010		BVTT+3-6
M	87-078-191-010		S-SCREW,IT+4-10

TAPE MECHANISM EXPLODED VIEW 1 / 1



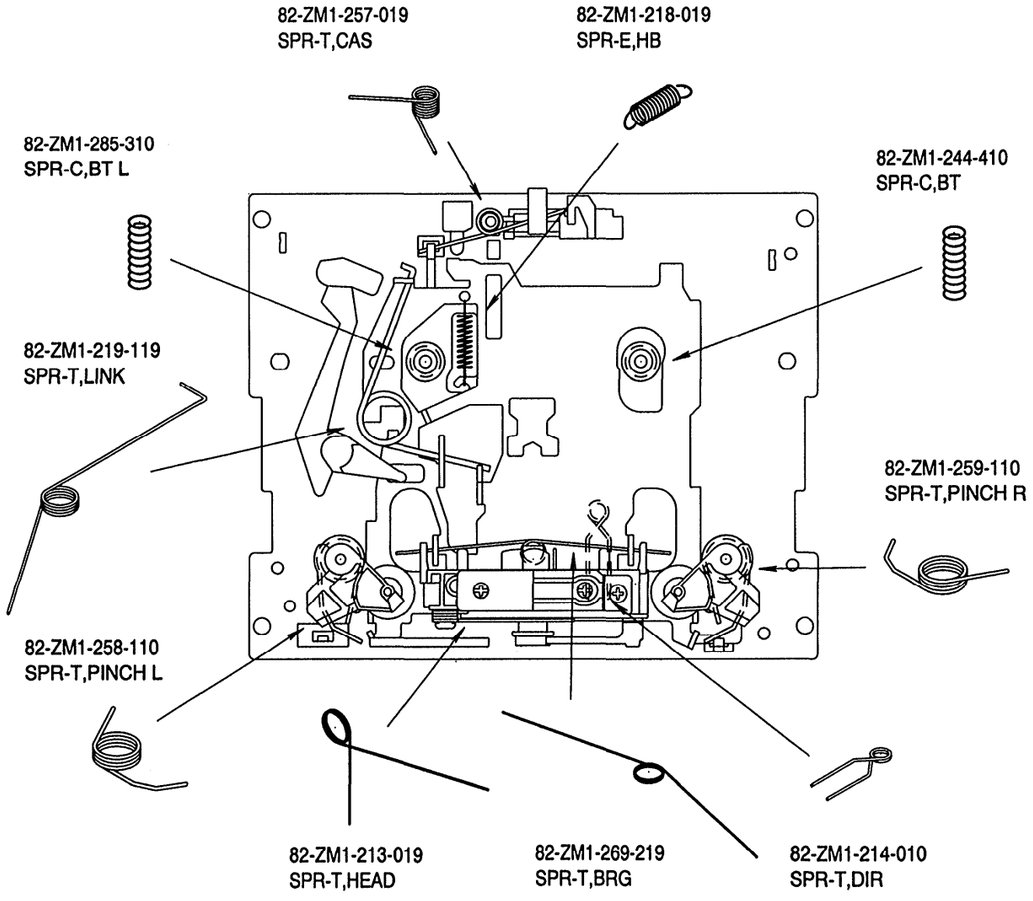


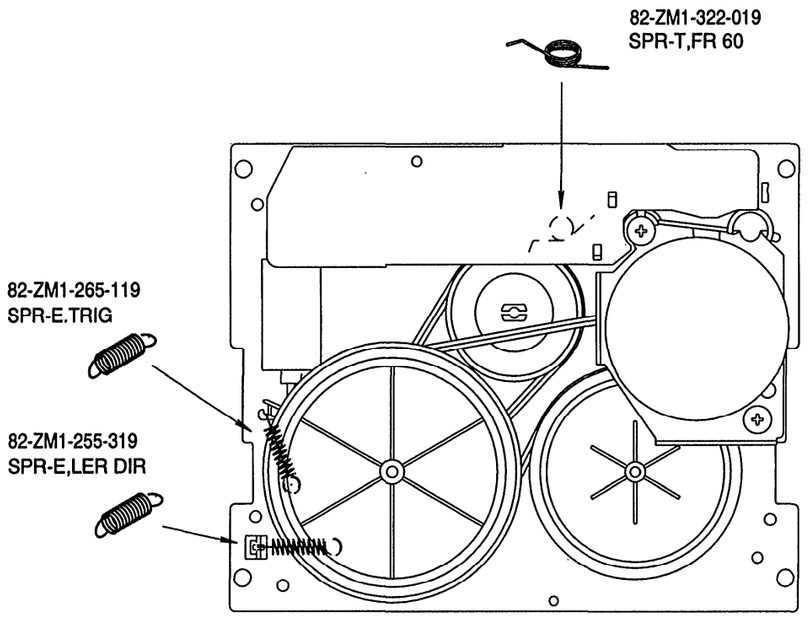
TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-319-010		HEAD,PH HADKH2 FPC
42	87-A90-320-010		HEAD,RPH HADKH5 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

SPRING APPLICATION POSITION



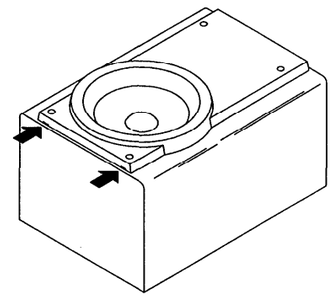


SPEAKER DISASSEMBLY INSTRUCTIONS

Type.1

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

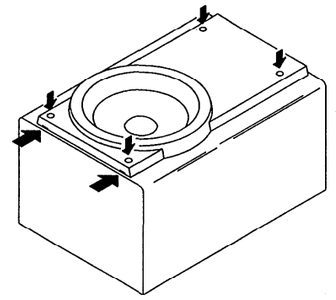
Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.2

グリルフレームを外し、4個のゴムキャプをマイナスドライバーで端の方から持ち上げて外すと中にビスが有りますので、ビスを取り外します。矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

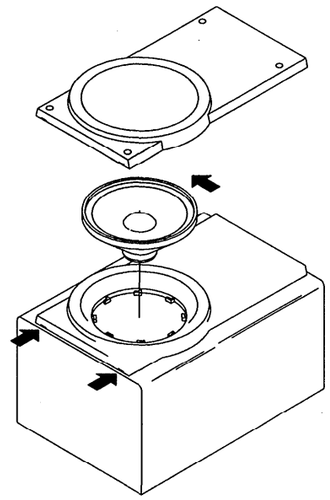
Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.3

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットの凹にマイナスドライバーを差し込んで、反時計方向に回転させスピーカーユニットを外してください。スピーカーユニット交換後は時計方向にクリック音がするまで、回転させて取り付けます。

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



SPEAKER PARTS LIST (SX-NA902 <YUSTNA>)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-NSF-001-010		PANEL,FR L
2	88-NSF-002-010		PANEL,FR R
3	88-NSF-003-010		PANEL,SP L
4	88-NSF-004-010		PANEL,SP R
5	88-NSG-003-010		PANEL,BA
6	88-NSG-004-010		GRILLE,FRAME ASSY
7	87-NSE-602-010		SPKR,W 160
8	87-NSE-604-010		SPKR,T 80
9	87-NSF-610-010		CORD,SPKR
10	88-NSG-610-010		SPKR, CERAMIC ASSY

SPEAKER PARTS LIST (SX-R275 <YUSTNC, YUSTNL>)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS1-004-010		GRILLE,FRAME ASSY
2	87-YS6-002-010		SPKR, CORD Y
3	87-YS6-601-010		SPKR, 100
4	87-010-384-010		CAP,E 100-25 SME

SPEAKER PARTS LIST (SX-C605 <YUSTNC, YUSTNL>)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS3-001-010		PANEL,FRONT ST
2	87-YS3-003-010		GRILLE,FRAME ASSY
3	83-NSM-010-010		SPEAKER CORD
4	87-YS7-602-010		SPKR, 100

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	88-NFS-903-010		IB,U(ESF)M
2	87-006-225-010		AM LOOP ANT NC2
3	87-043-115-010		FEEDER-ANT,FM
4	87-NFR-610-010		RC UNIT,RC-7AS09

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

アイワ株式会社
AIWA CO.,LTD.

〒110-8710 東京都台東区池之端1-2-11 ☎03（3827）3111（代表）

9301978, 750038

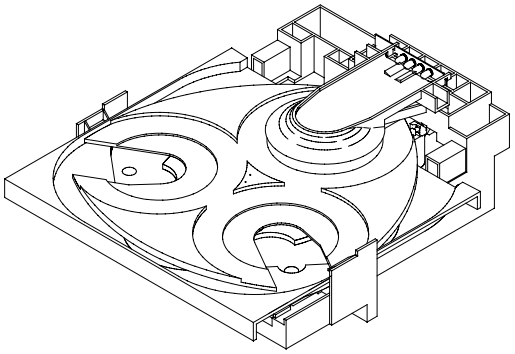
Tokyo Japan

Printed in Singapore

aiwa

aiwa SERVICE

4ZG-1



CD MECHANISM

• BASIC CD MECHANISM:3ZG-2 E1

• TYPE: English

BASIC NAME	DERIVATION NAME					
4ZG-1	V	O	S1	D	SH	

■ This Service Manual has various derivation.Derivation name is indicated by the Service Manual for each model.

SERVICE MANUAL

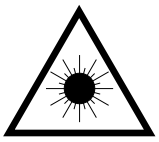
S/M Code No 09-985-249-80T

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

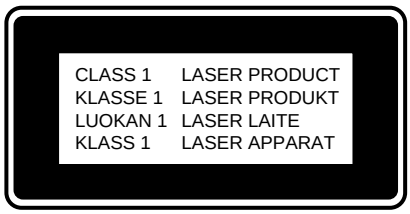
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

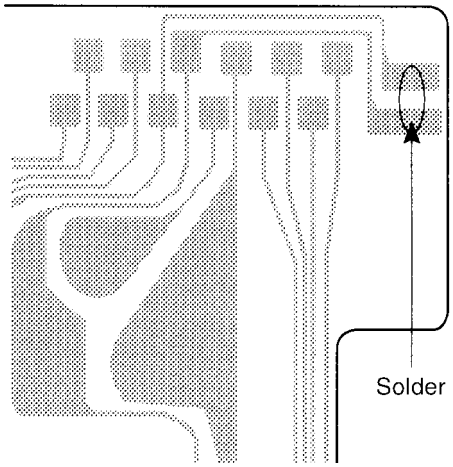


Precaution to replace Optical block (KSS-213F)

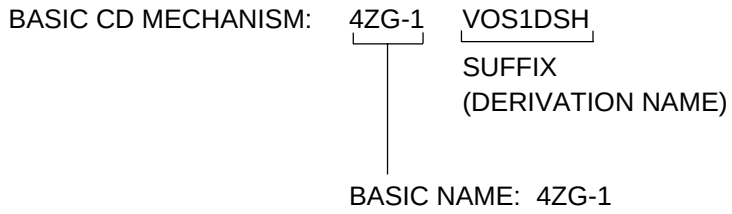
Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.



BASIC NAME	DERIVATION NAME							
4ZG-1	V	O	S1	D	SH	—	—	—

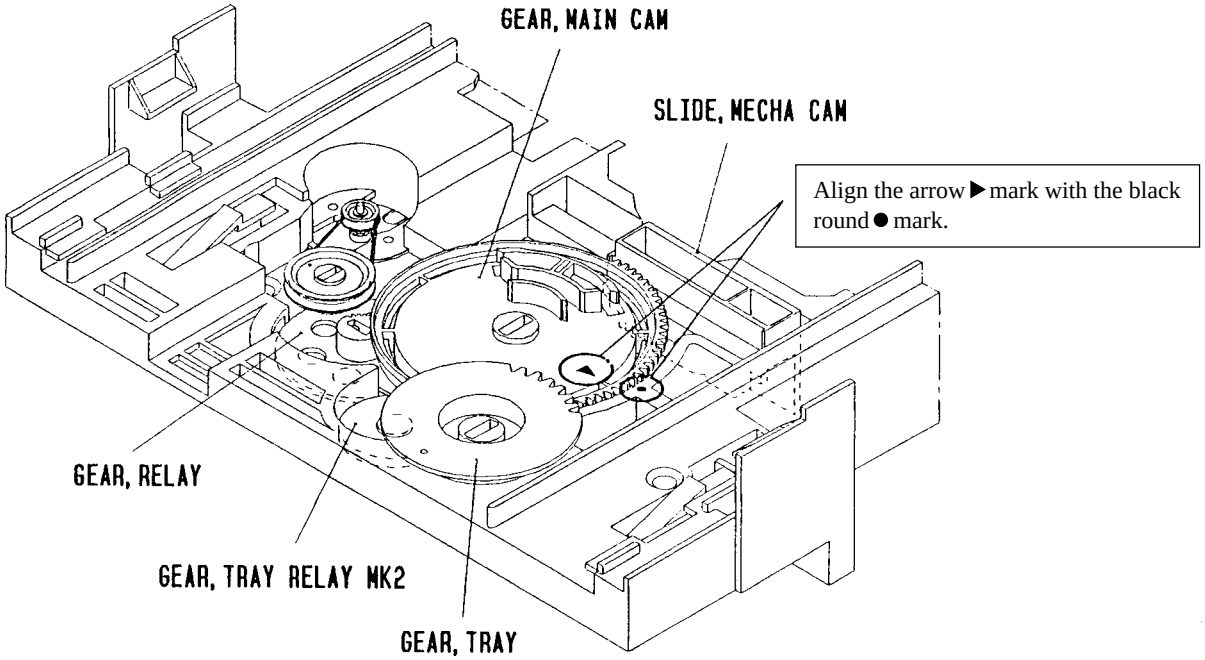
DERIVATION NAME

- V: VIDEO OUT
- O: On screen display
- S1: THE 1st SONY IC MODEL
- D: Digital output function
- SH: Pick up equipped with shutter

How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

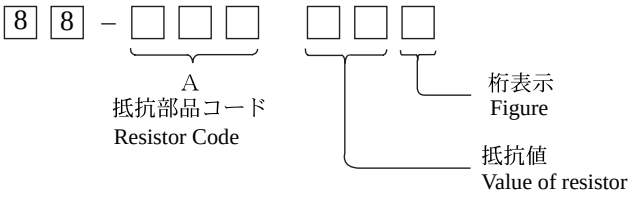
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-547-010		C-IC,CXA1992AR
	87-A20-919-040		C-IC,BA5915FP
	87-A20-917-010		C-IC,CXD2540Q-1/2
	84-ZG1-697-010		C-IC,UPD78016FGC-549
	87-017-825-010		IC,GP1F32T
	87-017-760-080		IC,M51943BML
	87-A20-602-040		C-IC,M5291FP
	87-A20-925-040		C-IC,BA05FP
	87-A20-905-040		C-IC,BA033FP
	87-001-873-010		IC,LB1644
	87-A20-920-010		C-IC,CL680-D1
	87-A20-921-040		C-IC,SN74LVU04APW
	87-A20-656-040		C-IC,MB81V4260S-60/70PFTN
	84-ZG1-695-040		C-IC,LH5V2RN1
	87-A20-975-040		C-IC,SN74LV74APW
	87-A20-974-040		C-IC,LC74781M-9017
	87-A20-918-040		C-IC,SM5878AM
TRANSISTOR			
	87-026-463-080		TR,2SA933S (0.3W)
	87-026-237-080		CHIP-TR,DTC124XK
	89-327-125-080		CHIP TR,2SC2712GR
	87-026-231-080		CHIP-TRANSISTER,DTA124XK
	87-A30-117-010		TR,2SA1357
	89-111-625-080		TR,2SA1162 (0.15W)
	87-026-580-080		C-TR,DTA123JK
	87-026-470-080		TR,HN1C03F (0.3W)
DIODE			
	87-020-027-080		CHIP-DIODE 1SS184
	87-017-024-040		C-DIODE,DA204K
	87-A40-180-040		C-DIODE,SB07-015C
	87-A40-384-080		C-ZENER,UDZ3.3B
3CD C.B			
C101	87-010-182-080		C-CAP,S 2200P-50 B
C102	87-016-669-080		C-CAP,S 0.1-25 K B
C103	87-016-669-080		C-CAP,S 0.1-25 K B
C104	87-016-669-080		C-CAP,S 0.1-25 K B
C105	87-010-404-040		CAP,E 4.7-50 SME
C106	87-016-369-080		C-CAP,S 0.033-25 B K
C107	87-010-197-080		CAP, CHIP 0.01 DM
C108	87-010-401-040		CAP,E 1-50 SME
C109	87-010-382-040		CAP,E 22-25 SME
C110	87-010-213-080		C-CAP,S 0.015-50 B
C111	87-010-263-040		CAP,E 100-10
C112	87-010-197-080		CAP, CHIP 0.01 DM
C113	87-016-369-080		C-CAP,S 0.033-25 B K
C114	87-016-369-080		C-CAP,S 0.033-25 B K
C115	87-016-369-080		C-CAP,S 0.033-25 B K
C116	87-012-158-080		C-CAP,S 390P-50 CH
C117	87-012-154-080		C-CAP,S 150P-50 CH
C118	87-010-494-040		CAP,E 1-50 GAS
C119	87-010-152-080		C-CAP,S 8P-50 CH
C120	87-010-992-080		C-CAP,S 0.047-25 B
C121	87-010-992-080		C-CAP,S 0.047-25 B
C123	87-016-669-080		C-CAP,S 0.1-25 K B
C125	87-010-198-080		CAP, CHIP 0.022
C126	87-016-669-080		C-CAP,S 0.1-25 K B
C127	87-010-555-040		CAP,E 100-10 GAS
C130	87-010-555-040		CAP,E 100-10 GAS
C131	87-010-555-040		CAP,E 100-10 GAS
C132	87-010-178-080		CHIP CAP 1000P
C133	87-010-555-040		CAP,E 100-10 GAS
C134	87-010-196-080		CHIP CAPACITOR,0.1-25
C135	87-010-196-080		CHIP CAPACITOR,0.1-25
C136	87-010-196-080		CHIP CAPACITOR,0.1-25
C137	87-010-196-080		CHIP CAPACITOR,0.1-25
C138	87-010-182-080		C-CAP,S 2200P-50 B
C139	87-010-197-080		CAP, CHIP 0.01 DM
C140	87-010-112-040		CAP,E 100-16
C141	87-010-196-080		CHIP CAPACITOR,0.1-25
C142	87-010-196-080		CHIP CAPACITOR,0.1-25
C143	87-010-213-080		C-CAP,S 0.015-50 B
C151	87-010-263-040		CAP,E 100-10
C152	87-010-197-080		CAP, CHIP 0.01 DM
C153	87-A10-893-040		CAP,E 220-10 M PW
C154	87-010-197-080		CAP, CHIP 0.01 DM
C155	87-010-184-080		CHIP CAPACITOR 3300P(K)
C156	87-010-992-080		C-CAP,S 0.047-25 B
C157	87-010-992-080		C-CAP,S 0.047-25 B
C158	87-012-156-080		C-CAP,S 220P-50 CH
C159	87-016-526-080		C-CAP,S 0.47-16 BK
C160	87-010-314-080		C-CAP,S 22P-50V
C161	87-010-182-080		C-CAP,S 2200P-50 B
C162	87-010-178-080		CHIP CAP 1000P
C201	87-016-669-080		C-CAP,S 0.1-25 K B
C204	87-010-197-080		CAP, CHIP 0.01 DM
C205	87-010-379-040		CAP,E 22-16 M SME
C206	87-010-322-080		C-CAP,S 100P-50 CH
C207	87-010-322-080		C-CAP,S 100P-50 CH
C208	87-010-322-080		C-CAP,S 100P-50 CH
C209	87-010-322-080		C-CAP,S 100P-50 CH
C210	87-016-669-080		C-CAP,S 0.1-25 K B
C211	87-010-263-040		CAP,E 100-10
C213	87-010-190-080		S CHIP F 0.01
C214	87-010-196-080		CHIP CAPACITOR,0.1-25
C301	87-016-251-040		CAP,E 220-16 SMG
C302	87-012-140-080		CAP 470P
C303	87-010-178-080		CHIP CAP 1000P
C304	87-010-384-040		CAP,E 100-25 SME
C305	87-010-982-040		CAP,E 33-25 GAS
C306	87-010-112-040		CAP,E 100-16
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C308	87-010-263-040		CAP,E 100-10
C309	87-010-196-080		CHIP CAPACITOR,0.1-25
C310	87-010-263-040		CAP,E 100-10
C311	87-010-196-080		CHIP CAPACITOR,0.1-25
C312	87-010-178-080		CHIP CAP 1000P
C320	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-016-044-040		CAP,E 100-16 GAS
C402	87-010-190-080		S CHIP F 0.01
C403	87-010-190-080		S CHIP F 0.01
C501	87-010-197-080		CAP, CHIP 0.01 DM
C502	87-010-197-080		CAP, CHIP 0.01 DM
C503	87-010-197-080		CAP, CHIP 0.01 DM
C504	87-010-154-080		CAP CHIP 10P
C505	87-010-154-080		CAP CHIP 10P
C506	87-010-197-080		CAP, CHIP 0.01 DM
C508	87-010-263-040		CAP,E 100-10
C509	87-016-669-080		C-CAP,S 0.1-25 K B
C510	87-010-263-040		CAP,E 100-10
C511	87-016-669-080		C-CAP,S 0.1-25 K B
C512	87-010-197-080		CAP, CHIP 0.01 DM
C513	87-010-197-080		CAP, CHIP 0.01 DM
C514	87-010-197-080		CAP, CHIP 0.01 DM
C518	87-010-322-080		C-CAP,S 100P-50 CH
C519	87-012-145-080		CAP, CHIP S 270P CH
C520	87-012-157-080		C-CAP,S 330P-50 CH
C521	87-012-154-080		C-CAP,S 150P-50 CH
C522	87-010-371-080		CAP, ELECT 470-6.3V
C523	87-010-197-080		CAP, CHIP 0.01 DM
C524	87-010-197-080		CAP, CHIP 0.01 DM
C525	87-010-197-080		CAP, CHIP 0.01 DM
C526	87-010-197-080		CAP, CHIP 0.01 DM

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C527	87-010-197-080		CAP, CHIP 0.01 DM
C528	87-010-197-080		CAP, CHIP 0.01 DM
C529	87-010-197-080		CAP, CHIP 0.01 DM
C530	87-010-197-080		CAP, CHIP 0.01 DM
C531	87-010-197-080		CAP, CHIP 0.01 DM
C532	87-010-374-040		CAP,E 47-10
C533	87-010-197-080		CAP, CHIP 0.01 DM
C534	87-010-555-040		CAP,E 100-10 GAS
C535	87-010-197-080		CAP, CHIP 0.01 DM
C536	87-010-078-040		CAP,E 47-6.3 5L
C537	87-010-197-080		CAP, CHIP 0.01 DM
C538	87-010-196-080		CHIP CAPACITOR,0.1-25
C539	87-016-669-080		C-CAP,S 0.1-25 K B
C540	87-010-078-040		CAP,E 47-6.3 5L
C541	87-010-197-080		CAP, CHIP 0.01 DM
C542	87-010-318-080		C-CAP,S 47P-50 CH
C544	87-010-197-080		CAP, CHIP 0.01 DM
C546	87-010-197-080		CAP, CHIP 0.01 DM
C549	87-010-494-040		CAP,E 1-50 GAS
C550	87-010-196-080		CHIP CAPACITOR,0.1-25
C551	87-012-153-080		C-CAP,S 120P-50 CH
C552	87-016-526-080		C-CAP,S 0.47-16 BK
C554	87-010-197-080		CAP, CHIP 0.01 DM
C556	87-010-378-040		CAP,E 10-16
C557	87-010-316-080		C-CAP,S 33P-50 CH
C558	87-010-315-080		C-CAP,S 27P-50 CH
C560	87-010-197-080		CAP, CHIP 0.01 DM
C601	87-010-197-080		CAP, CHIP 0.01 DM
C602	87-010-197-080		CAP, CHIP 0.01 DM
C603	87-010-112-040		CAP,E 100-16
C604	87-010-196-080		CHIP CAPACITOR,0.1-25
C605	87-010-197-080		CAP, CHIP 0.01 DM
C606	87-010-197-080		CAP, CHIP 0.01 DM
C607	87-010-313-080		CAP, CHIP 18P
C608	87-010-313-080		CAP, CHIP 18P
C609	87-010-178-080		CHIP CAP 1000P
C610	87-010-178-080		CHIP CAP 1000P
C611	87-010-178-080		CHIP CAP 1000P
C612	87-010-178-080		CHIP CAP 1000P
C613	87-010-403-040		CAP,E 3.3-50 SME
C614	87-010-403-040		CAP,E 3.3-50 SME
C615	87-010-318-080		C-CAP,S 47P-50 CH
C616	87-010-318-080		C-CAP,S 47P-50 CH
CN101	87-A60-424-010		CONN,16P V TOC-B
CN102	87-099-199-010		CONN,6P 6216 H
CN401	87-099-212-010		CONN,5P 6216 V
CN403	87-099-030-010		CONN,13P 6216H
J501	87-009-502-010		JACK,PIN 1P Y EARTH
L101	87-005-196-080		COIL,10UH
L301	87-A50-095-010		COIL,68UH RCR875D
L302	87-005-426-080		COIL,3.3UH K FLR50
L502	87-005-204-080		COIL,47UH
L503	87-005-189-080		COIL 2.7UH
L504	87-005-187-080		COIL,1.8UH
L505	87-005-204-080		COIL,47UH
L506	87-005-204-080		COIL,47UH
L507	87-005-204-080		COIL,47UH
L508	87-005-817-080		C-COIL, 33UH J FLC32
M401	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
R130	87-022-364-080		C-RES,S 82K-1/10W F
R131	87-022-364-080		C-RES,S 82K-1/10W F
R132	87-022-364-080		C-RES,S 82K-1/10W F
R133	87-022-364-080		C-RES,S 82K-1/10W F
R134	87-022-364-080		C-RES,S 82K-1/10W F
R135	87-022-364-080		C-RES,S 82K-1/10W F
R507	87-A00-408-080		C-RES,S 2K-1/10W D
S201	87-A90-162-010		SW,SL 1-1-3 SSSU
S401	87-036-109-010		PUSH SWITCH
S402	87-036-109-010		PUSH SWITCH
W1	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N
W2	85-NFT-611-110		FF-CABLE 16P-1.0
W3	84-ZG1-630-010		CABLE FFC 6P-1.25
X201	87-A70-124-080		VIB,CER 8.0MHZ
X501	87-A70-125-080		VIB,XTAL 27MHZ 50PPM
X601	87-030-270-080		VIB,XTAL 16.9344MHZ
LED C.B			
LED401	87-070-200-080		LED,SLP636C-81-S-T1
LED402	87-017-350-080		LED,SEL1550CM
LED403	87-017-350-080		LED,SEL1550CM
LED404	87-070-200-080		LED,SLP636C-81-S-T1
T-T C.B			
C401	87-018-214-080		CAP TC U 0.1-50F
CON401	86-NFZ-675-010		CONN,5P H 6216-11H
PS401	87-026-573-010		IC,GP1S53V
DRIVE C.B			
CN3	87-009-349-010		CONN,6P H WHT PH
M20	87-045-358-010		MOT,RF-310TA 43
M21	87-045-356-010		MOT,RF-310TA 30
SW1	87-A90-042-010		SW,LEAF MSW-17310MVPO
CD MOTOR C.B			
CN4	87-099-210-010		CONN,5P H BLK 6216
M1	87-045-305-010		MOT,RF-500TB
SW1	87-035-110-010		SW,MICRO SPPB62
SW2	87-035-110-010		SW,MICRO SPPB62

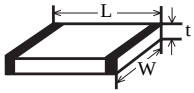
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

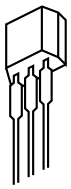
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



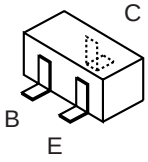
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm)				抵抗コード　: A Resistor Code : A
				外形 / Form	L	W	t	
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

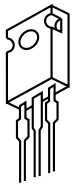
TRANSISTOR ILLUSTRATION



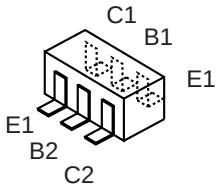
2SA933S



2SA1162
2SC2712
DTA123JK
DTA124XK
DTC124XK

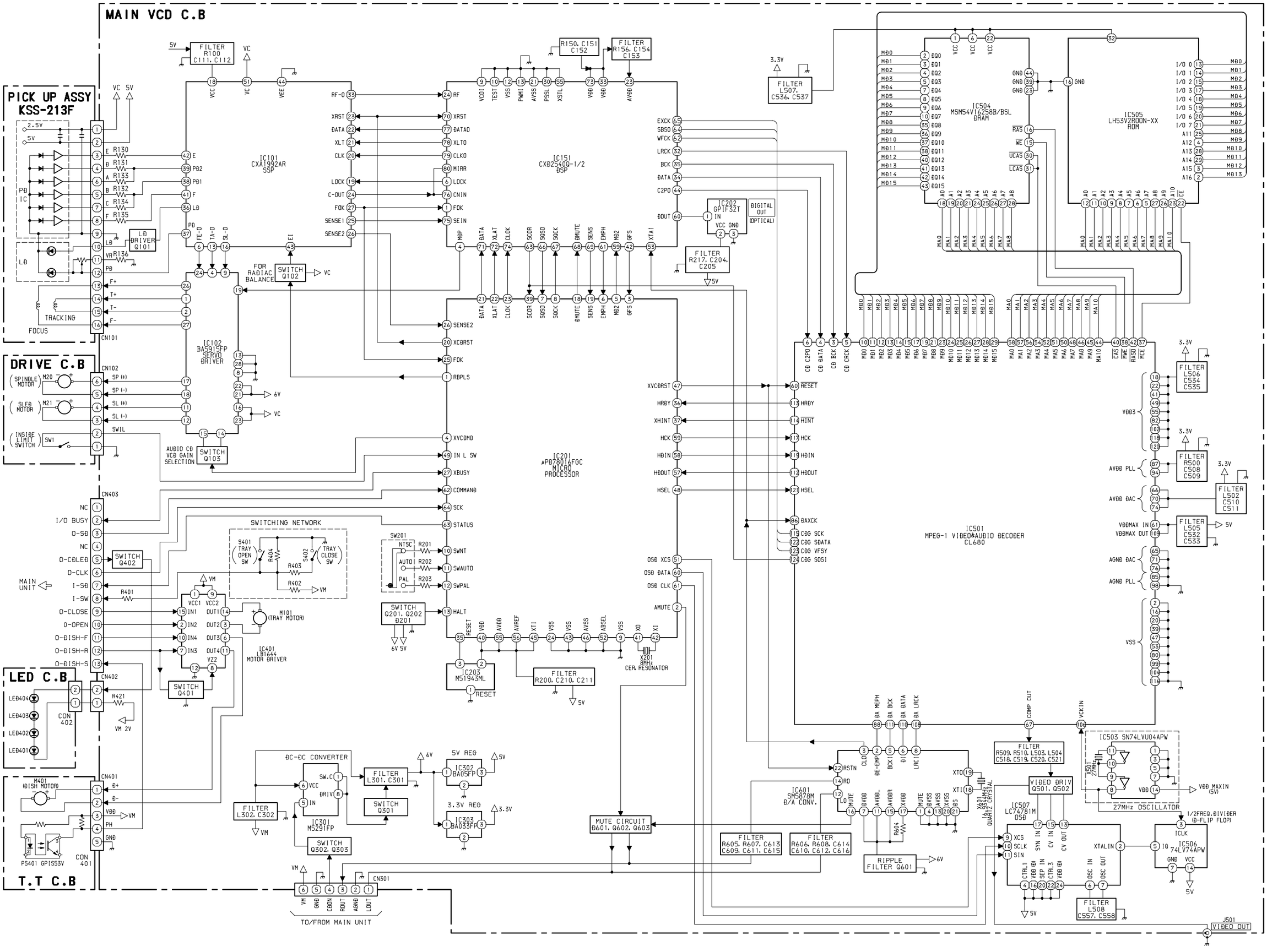


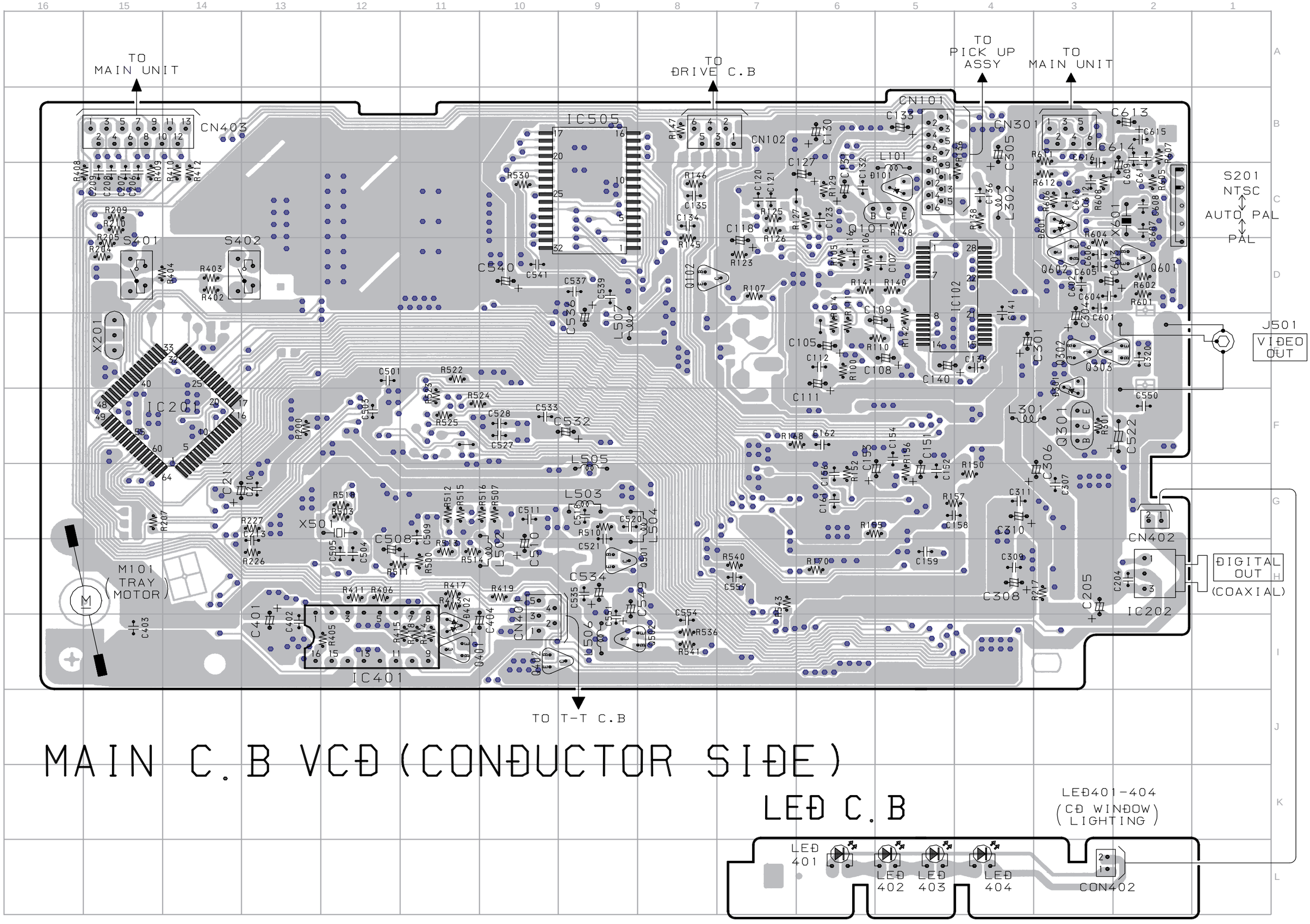
2SA1357

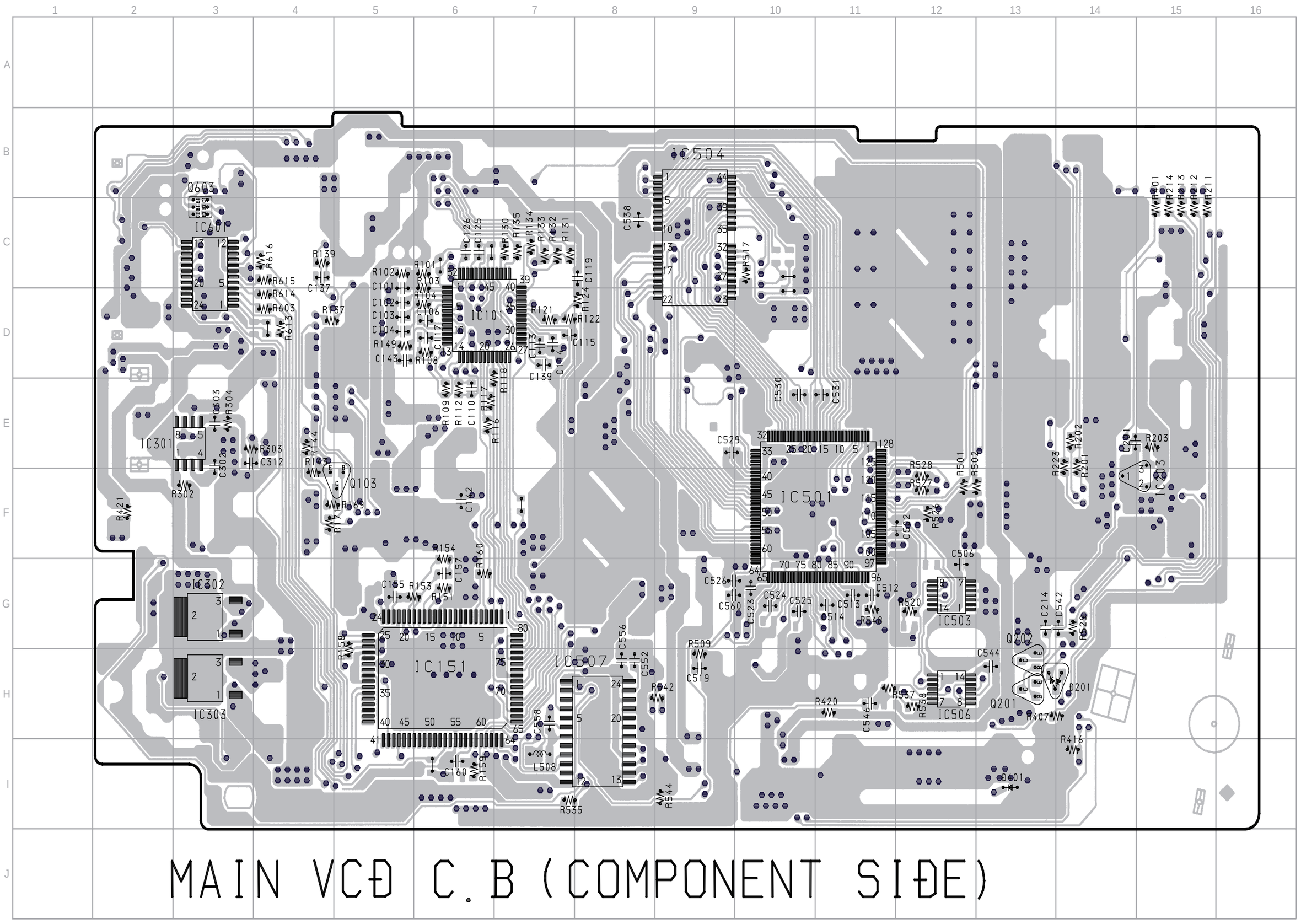


HN1C03F

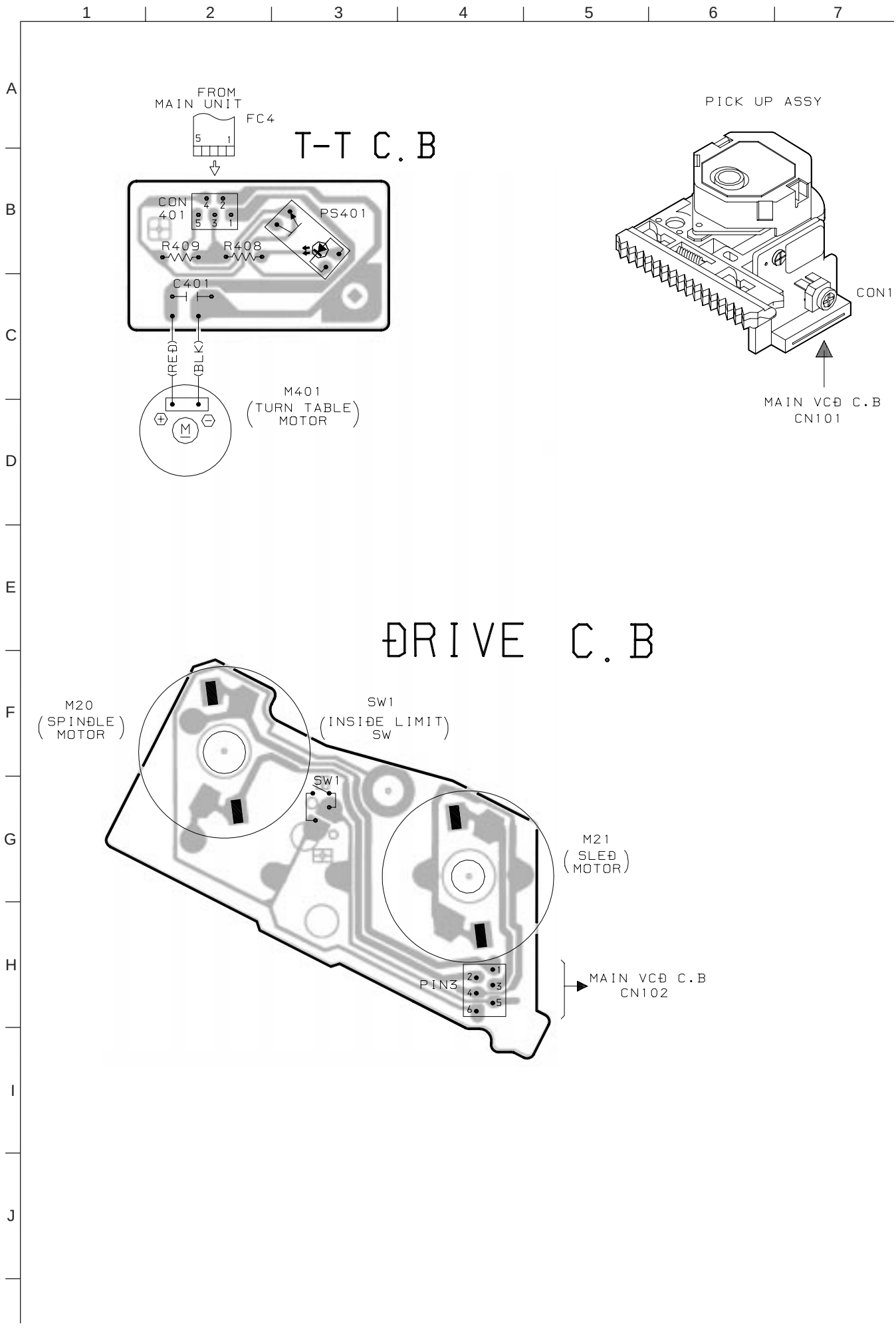
BLOCK DIAGRAM



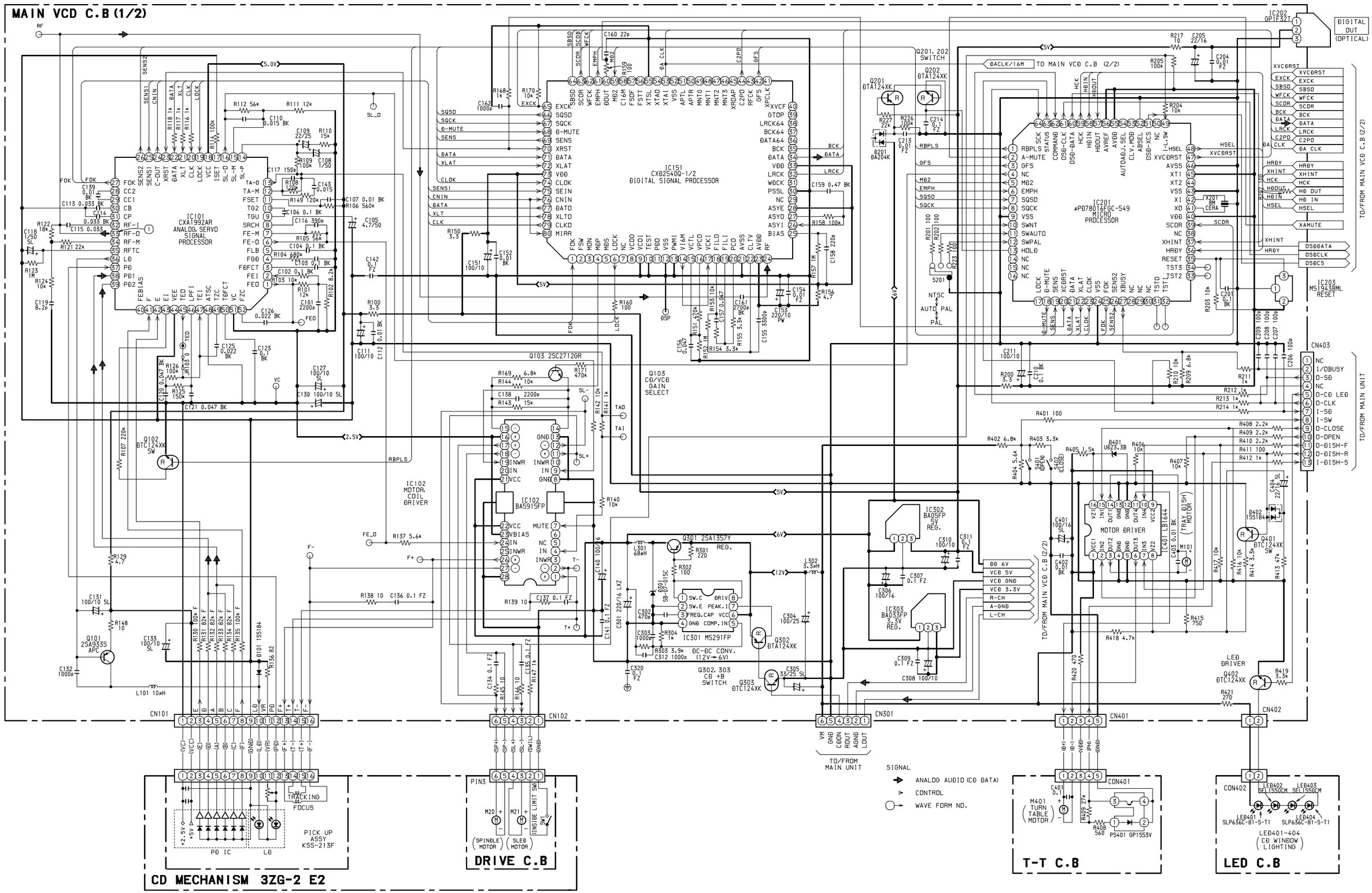

TO MAIN UNIT
TO ÐRIVE C.B
TO PICK UP ASSY
TO MAIN UNIT
CN403
CN102
CN101
CN301
CN402
IC505
IC201
IC401
IC202
IC102
S401
S402
S201 NTSC AUTO PAL PAL
J501 VIÐEO OUT
ÐIGITAL OUT (COAXIAL)
M101 (TRAY MOTOR)
TO T-T C.B
MAIN C.B VCÐ (CONÐUCTOR SIÐE)
LEÐ C.B
LEÐ401-404 (CÐ WINÐOW LIGHTING)
LEÐ 401
LEÐ 402
LEÐ 403
LEÐ 404
CON402

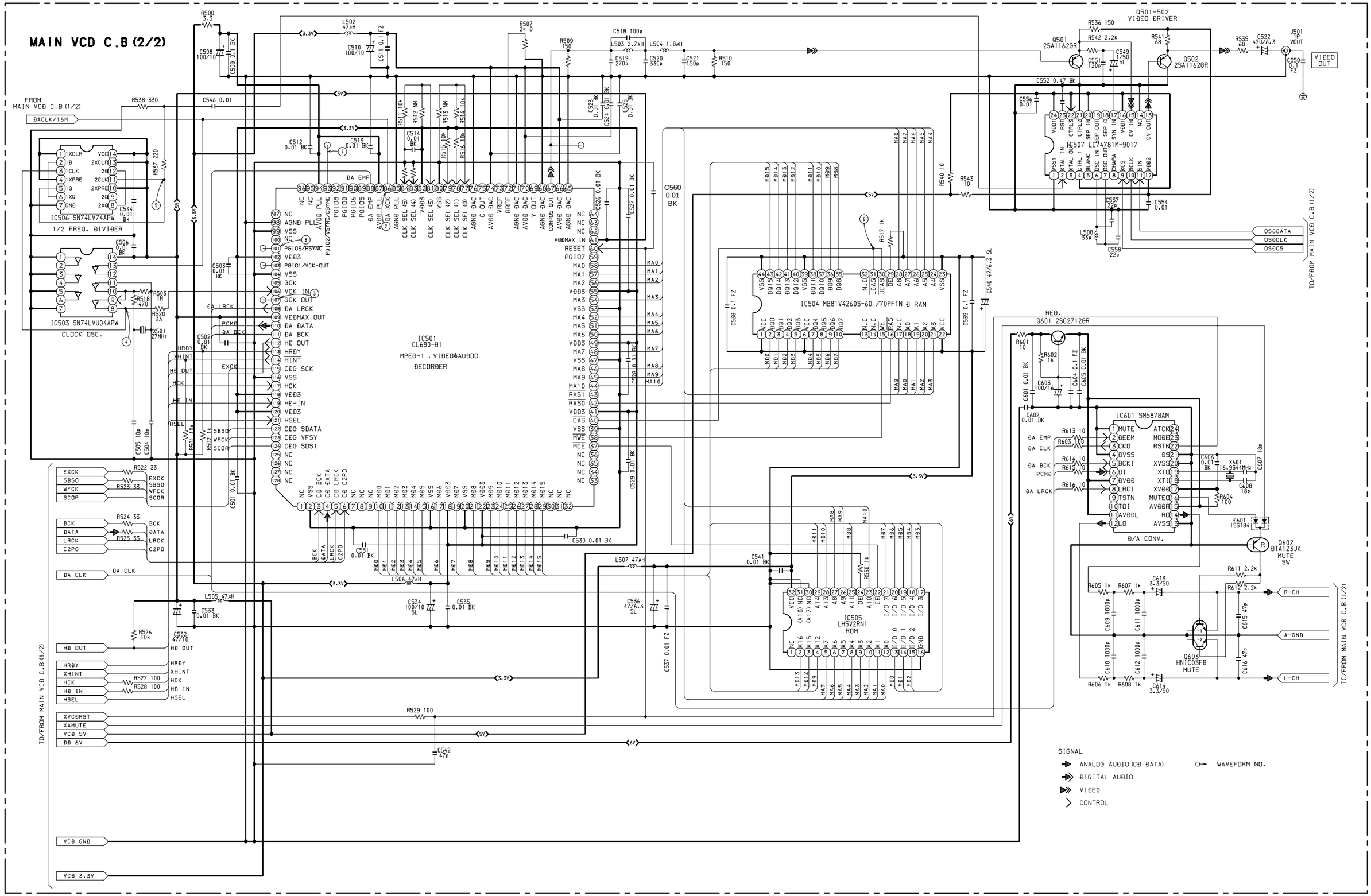


MAIN VCÐ C.B (COMPONENT SIÐE)


FROM
MAIN UNIT
FC4
5
1
T-T C.B
CON
401
4
2
5
3
1
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE
MOTOR)
M
PICK UP ASSY
CON1
MAIN VCD C.B
CN101
DRIVE C.B
M20
(SPINDLE
MOTOR)
SW1
(INSIDE LIMIT
SW)
SW1
M21
(SLED
MOTOR)
PIN3
1
2
3
4
5
6
MAIN VCD C.B
CN102

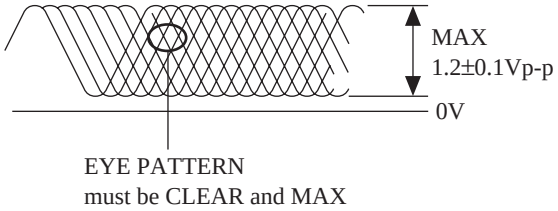
SCHEMATIC DIAGRAM-1




MAIN VCD C.B (2/2)
FROM MAIN VCD C.B (1/2)
ÐACLK/16M
IC506 SN74LV74APW
1/2 FREQ. ÐIVIÐER
IC503 SN74LVU04APW
CLOCK OSC.
X501 27MHz
IC501 CL680-Ð1
MPEG-1 . VIÐEO&AUÐIO ÐECORÐER
IC504 MB81V4260S-60 /70PFTN Ð RAM
IC505 LH5V2RN1 ROM
IC507 LC74781M-9017
Q501-502 VIÐEO ÐRIVER
Q501 2SA1162GR
Q502 2SA1162GR
REG. Q601 2SC2712GR
IC601 SM5878AM
Ð/A CONV.
Q602 ÐTA123JK MUTE SW
Q603 HN1C03FB MUTE
D601 1SS184
VIÐEO OUT
TO/FROM MAIN VCÐ C.B (1/2)
TO/FROM MAIN VCÐ C.B (1/2)
OSÐÐATA
OSÐCLK
OSÐCS
R-CH
A-GNÐ
L-CH
SIGNAL
ANALOG AUÐIO (CÐ ÐATA)
ÐIGITAL AUÐIO
VIÐEO
CONTROL
WAVEFORM NO.

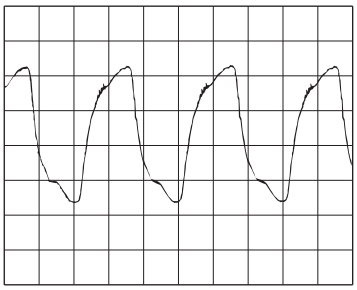
WAVE FORM

① IC101 Pin ㉝ (RF-O)
VOLT/DIV: 200mV
TIME/DIV: 0.5µS

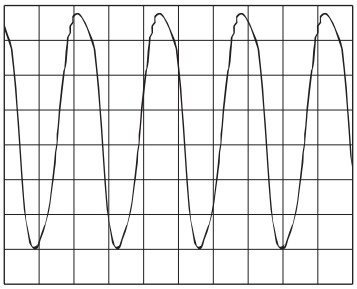


EYE PATTERN
must be CLEAR and MAX

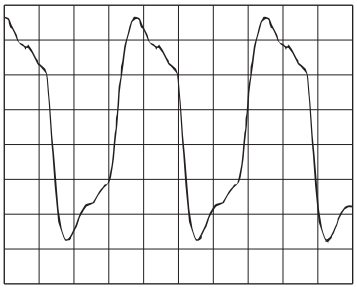
② IC501 Pin ㊽ DA XCK
16.93MHz
VOLT/DIV: 1V
TIME/DIV: 20nS



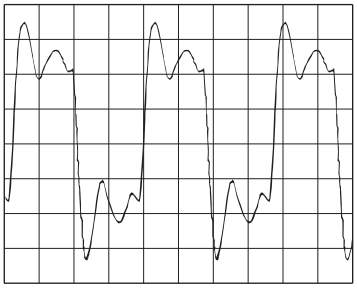
③ IC501 Pin ⑩⑦ GCK OUT
42.3MHz
VOLT/DIV: 1V
TIME/DIV: 10nS



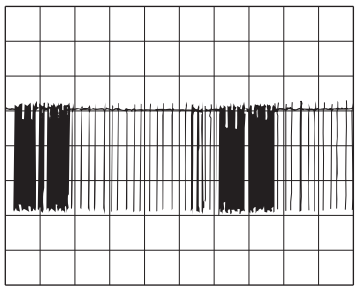
④ IC503 Pin ⑧ 33 VCK
27MHz±1.35kHz
VOLT/DIV: 1V
TIME/DIV: 10nS



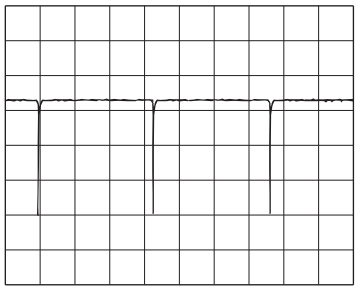
⑤ IC506 Pin ⑪ OSD CLK
13.5MHz±675Hz
VOLT/DIV: 1V
TIME/DIV: 20nS



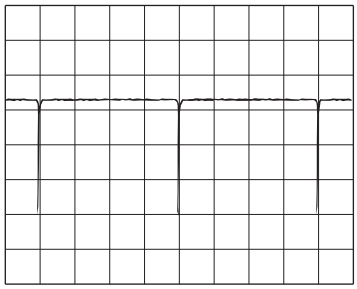
⑥ IC504 Pin ㉚ $\overline{\text{UCAS}}$
(Pin ㉛ $\overline{\text{LCAS}}$)
VOLT/DIV: 1V
TIME/DIV: 2µS



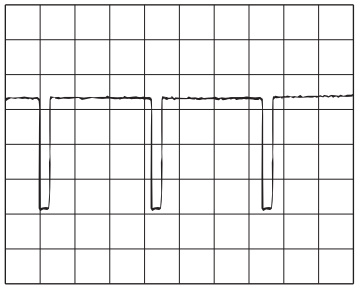
⑦ IC501 Pin ㉝ $\overline{\text{VSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 5mS



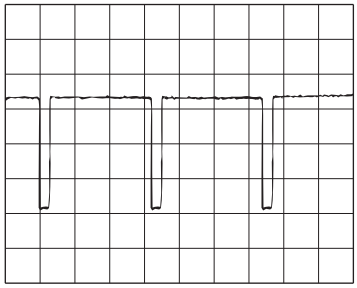
⑧ IC501 Pin ㉝ $\overline{\text{VSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 5mS



⑧ IC501 Pin ⑩① $\overline{\text{HSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 20µS



IC501 Pin ⑩① $\overline{\text{HSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 20µS



IC DESCRIPTION

IC, CXA1992AR

Pin No.	Pin Name	I/O	Description
1	FEO	O	Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition.
2	FEI	I	Input terminal for focus error.
3	FDFCT	I	Capacitor connection terminal for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FE_O	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TA_M	I	Tracking amplifier inverted input pin.
13	TA_O	O	Tracking drive output.
14	SL_P	I	Sled amplifier non-inverted input pin.
15	SL_M	I	Sled amplifier inverted input pin.
16	SL_O	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input with external resistance connected.
18	Vcc	I	Power supply.
19	LOCK	I	“L” setting starts sled disorder-prevention circuit. (Not pull-up resistance)
20	CLK	I	Clock input for serial data transfer from CPU. (No pull-up resistance)
21	XLT	I	Latch input from CPU. (No pull-up resistance)
22	DATA	I	Serial data input from CPU. (No pull-up resistance)
23	XRST	I	Reset system at “L” setting. (No pull-up resistance)
24	C_OUT	O	Signal output for track number counting.
25	SENS1	O	FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU.
26	SENS2	O	DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU.
27	FOK	O	Output terminal for focus OK comparator.
28	CC2	I	Input pin where the DEFECT bottom hold output is capacitance coupled.
29	CC1	O	DEFECT bottom-hold output terminal. Internally connected to interruption comparator input.
30	CB	I	Connection terminal for DEFECT bottom-hold capacitor.
31	CP	I	Connection terminal for MIRR hold-capacitor. Anti-reverse input terminal for MIRR comparator.

Pin No.	Pin Name	I/O	Description
32	RF_I	I	Input terminal by capacity combination of RF summing amplifier.
33	RF_O	O	Output terminal of RF summing amplifier. Checkpoint of Eye pattern.
34	RF_M	I	Anti-reverse input terminal for RF summing amplifier. The gain of RF amplifier is decided by the connection resistance between RF_M and RFO terminals.
35	RFTC	I	This is a pin where the selection time constant is externally connected to control the RF level.
36	LD	O	APC amplifier output terminal.
37	PD	I	APC amplifier input terminal.
38, 39	PD1, PD2	I	RFI-V amplifier inverted input pin. These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input.
40	FEBIAS	I/O	Bias adjustment pin of the focus error amplifier.
41, 42	F, E	I	F and EIV amplifier inverted input pins. These pins are connected to the F and E of the optical pickup, receiving by current input.
43	EI	—	Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment)
44	VEE	—	GND connection pin.
45	TEO	O	Output terminal for tacking-error amplifier. Output E-F signal.
46	LPFI	I	BAL adjustment comparator input pin. (Input through LPF from TEO)
47	TEI	I	Input terminal for tracking error.
48	ATSC	I	Window-comparator input terminal for detecting ATSC.
49	TZC	I	Input terminal for tracking-zero cross comparator.
50	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
51	VC	O	Output terminal for DC voltage reduced to half of VCC+VEE.
52	FZC	I	Input terminal for focus-zero cross comparator.

IC, CXD2540Q

Pin No.	Pin Name	I/O	Description
1	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.
2	FSW	O	Spindle motor output filter switching output.
3	MON	O	Spindle motor on/off control output.
4	MDP	O	Spindle motor servo control.
5	MDS	O	
6	LOCK	O	High, when sampled value of GFS at 460Hz is high. Low, when sampled value of GFS at 460Hz is low by 8 times successively.
7	NC		
8	VCOO	O	Analog EFM PLL oscillation circuit output.
9	VCOI	I	Analog EFM PLL oscillation circuit input. fLOCK=8.6436MHz.
10	TEST	I	TEST pin.
11	PDO	O	Analog EFM PLL charge pump output.
12	VSS		GND.
13	PWMI	I	Spindle motor external control input.
14	V16M	O	VCO2 oscillation output for the wide-band EFM PLL.
15	VCTL	I	VCO2 control voltage input for the wide-band EFM PLL.
16	VPCO	O	Wide-band EFM PLL charge pump output.
17	VCKI	I	VCO2 oscillation input for the wide-band EFM PLL.
18	FILO	O	Multiplier PLL (slave=digital PLL) filter output.
19	FILI	I	Multiplier PLL filter input.
20	PCO	O	Multiplier PLL charge pump output.
21	AVSS		Analog GND.
22	CLTV	I	Multiplier VCO1 control voltage input.
23	AVDD		Analog power supply (5V).
24	RF	I	EFM signal input.
25	BIAS	I	Constant current input of the asymmetry circuit.
26	ASYI	I	Asymmetry comparator voltage input.
27	ASYO	O	EFM full-swing output.
28	ASYE	I	Low: asymmetry circuit off; high: asymmetry circuit on.
29	NC		
30	PSSL	I	Audio data output mode switching input. Low: serial output; high: parallel output.
31	WDCK	O	D/A interface for 48-bit slot. Word clock f=2Fs.
32	LRCK	O	D/A interface for 48-bit slot. LR clock f=Fs.
33	VDD		Power supply (5V).
34	DA16	O	DA16 (MSB) output when PSSL=1. 48-bit slot serial data (two's complement, MSB first) when PSSL=0.
35	DA15	O	DA15 output when PSSL=1. 48-bit slot bit clock when PSSL=0.
36	DA14	O	DA14 output when PSSL=1. 64-bit slot serial data (two's complement, LSB first) when PSSL=0.
37	DA13	O	DA13 output when PSSL=1. 64-bit slot bit clock when PSSL=0.
38	DA12	O	DA12 output when PSSL=1. 64-bit slot LR clock when PSSL=0.

Pin No.	Pin Name	I/O	Description
39	DA11	O	DA11 output when PSSL=1. GTOP output when PSSL=0.
40	DA10	O	DA10 output when PSSL=1. XUGF output when PSSL=0.
41	DA09	O	DA09 output when PSSL=1. XPLCK output when PSSL=0.
42	DA08	O	DA08 output when PSSL=1. GFS output when PSSL=0.
43	DA07	O	DA07 output when PSSL=1. RFCK output when PSSL=0.
44	DA06	O	DA06 output when PSSL=1. C2PO output when PSSL=0.
45	DA05	O	DA05 output when PSSL=1. XRAOF output when PSSL=0.
46	DA04	O	DA04 output when PSSL=1. MNT3 output when PSSL=0.
47	DA03	O	DA03 output when PSSL=1. MNT2 output when PSSL=0.
48	DA02	O	DA02 output when PSSL=1. MNT1 output when PSSL=0.
49	DA01	O	DA01 output when PSSL=1. MNT0 output when PSSL=0.
50	APTR	O	Aperture compensation control output. This pin outputs a high signal when the right channel is used.
51	APTL	O	Aperture compensation control output. This pin outputs a high signal when the left channel is used.
52	VSS		GND.
53	XTAI	I	Crystal oscillation circuit input.
54	XTAO	O	Crystal oscillation circuit output.
55	XTSL	I	Crystal selector input.
56	FSTT	O	2/3 frequency divider output for Pins 53 and 54.
57	FSOF	O	1/4 frequency divider output for Pins 53 and 54.
58	C16M	O	16.9344MHz output. (V16M output in CLV-W and CAV-W modes)
59	MD2	I	Digital-out on/off control. High: on; low: off
60	DOUT	O	Digital-out output.
61	EMPH	O	Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis.
62	WFCK	I	WFCK (write frame clock) output.
63	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
64	SBSO	O	Sub P to W serial output.
65	EXCK	I	SBSO readout clock input.
66	SQSO	O	Sub Q 80-bit and PCM peak, level metter and internal status outputs.
67	SQCK	I	SQSO readout clock input.
68	MUTE	I	High: mute; low: release
69	SENS	—	SENS output to CPU.
70	XRST	I	System reset. Reset when low.
71	DATA	O	Serial data input from CPU.
72	XLAT	O	Latch input from CPU. Serial data is latched at the falling edge.
73	VDD		Power supply (5V).
74	CLOK	O	Serial data transfer clock input from CPU.
75	SEIN	I	SENS input from SSP.
76	CNIN	I	Track jump count signal input.

Pin No.	Pin Name	I/O	Description
77	DATO	O	Serial data output to SSP.
78	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input. Used when the number of tracks is 128 or more for the 2N-track jump and M track move of the auto sequencer.

Notes)

- The 64-bit slot is an LSB first, two's complement output, and the 48-bit slot is an MSB first, two's complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136μ.
- C2PO represents the data error status.
- XRAOF is generated when the 32K RAM exceeds the ±28F jitter margin.

IC, CL680

Pin No.	Pin Name	I/O	Description
1	NC	—	No connection.
2	VSS	—	GND.
3	CD BCK	I	Bit clock input from CD DSP.
4	CD DATA	I	Data input from CD DSP.
5	CD LRCK	I	LRCK input from CD DSP.
6	CD C2PO	I	C2 pointer input from CD DSP.
7-9	NC	—	No connection.
10-15	MD0-MD5	I/O	DRAM/ROM interface. (DATA)
16	VSS	—	Ground.
17	MD6	I/O	DRAM/ROM interface. (DATA)
18	VDD3	—	Power supply 3.3V.
19	MD7	I/O	DRAM/ROM interface. (DATA)
20	VSS	—	Ground.
21	MD8	I/O	DRAM/ROM interface. (DATA)
22	VDD3	—	Power supply 3.3V.
23-29	MD9-MD15	I/O	DRAM/ROM interface. (DATA)
30-36	NC	—	No connection.
37	$\overline{\text{MCE}}$	—	ROM chip enable.
38	$\overline{\text{MWE}}$	O	DRAM write enable.
39	VSS	—	Ground.
40	$\overline{\text{CAS}}$	O	DRAM/ROM interface.
41	VDD3	—	Power supply 3.3V.
42	$\overline{\text{RASO}}$	O	DRAM/ROM interface.
43	$\overline{\text{RASI}}$	O	
44-46	MA10-MA8	O	DRAM/ROM interface. (Address)
47	VSS	—	Ground.
48	MA7	O	DRAM/ROM interface. (Address)
49	VDD3	—	Power supply 3.3V.
50-52	MA6-MA4	O	DRAM/ROM interface. (Address)
53	VSS	—	Ground.
54	MA3	O	DRAM/ROM interface. (Address)
55	VDD3	—	Power supply 3.3V.
56-58	MA2-MA0	O	DRAM/ROM interface. (Address)
59	PGIO7	I/O	Programmable I/O.
60	$\overline{\text{RESET}}$	I	Reset input.
61	VDD MAX IN	—	Power supply - VDDMAX. (5.0V)
62-64	NC	—	No connection.
65	AGND DAC	—	Analog ground.
66	A DAC	—	Analog power supply (DAC) : 3.3V.
67	COMP OUT	O	Composite out.
68	AGND DAC	—	Analog ground.

Pin No.	Pin Name	I/O	Description
69	Y OUT	O	Video signal “Y” OUT.
70	AVDD DAC	—	Analog power supply (DAC) 3.3V.
71	AGND DAC	—	Analog ground.
72	R REF	I	Reference resistor input.
73	V REF	I	Voltage reference input.
74	AVDD DAC	—	Analog power supply (DAC) : 3.3V.
75	C OUT	O	Video signal “C” out.
76	AGND DAC	—	Analog ground.
77-79	CLK SEL0-2	I	Clock selection input.
80	VSS	—	Ground.
81	CLK SEL3	I	Clock selection input.
82	VDD3	—	Power supply 3.3V.
83, 84	CLK SEL4, 5	I	Clock selection input.
85	AGND PLL	—	Analog ground.
86	DA XCK	I	DA XCK (16.933MHz) input.
87	AVDD PLL	—	Analog power supply 3.3V.
88	DA EMP	O	DAC-emphasis output.
89, 90	PGIO5, O6	I/O	Programmable I/O.
91	PGIO0	I/O	
92	PGIO8	I/O	
93	$\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$	O	$\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$ output.
94	AVDD PLL	—	Analog power supply (PLL) 3.3V.
95	VID_DAC_CK	O	Video DAC clock.
96	PROC_CK	O	Processor clock.
97	AUD_XCK	O	Audio XCK.
98	AGND PLL	—	Analog ground.
99	VSS	—	Ground.
100	NC	—	No connection.
101	$\overline{\text{HSYNC}}$	O	$\overline{\text{HSYNC}}$ output.
102	VDD3	—	Power supply 3.3V.
103	VCK OUT	O	VCK out.
104	VSS	—	Ground.
105	GCK	I	Global clock signal input. (42.3MHz)
106	VCK	I	Video clock signal input. (27.0MHz)
107	GCK OUT	O	Global clock signal output. (27.0MHz)
108	DA LRCK	O	DAC-LRCK output.
109	VDD MAX OUT	—	Power supply (VDD MAX) : 5.0V.
110	DA DATA	O	DAC-PCM data output.
111	DA BCK	O	DAC-BIT clock output.
112	HD OUT	O	Micon interface. (Data out)
113	HRDY	O	Micon interface. (Host ready)

Pin No.	Pin Name	I/O	Description
114	$\overline{\text{HINT}}$	O	Micon interface. (Host interrupt)
115	CDG SCK	I	CD-G serial clock input.
116	VSS	—	Ground.
117	HCK	I	Micon interface. (Host clock)
118	VDD3	—	Power supply 3.3V.
119	HD IN	I	Micon interface. (Host data in)
120	VDD3	—	Power supply 3.3V.
121	HSEL	I	Micon interface. (Host select in)
122	CDG DATA	I	CD-G data input.
123	CDG VFSY	I	CD-G VFSY input.
124	CDG SOSI	I	CD-G SOSI input.
125	DSP-XCK	O	DSP-XCK output.
126-128	NC	—	No connection.

IC, LC74781M

Pin No.	Pin Name	I/O	Description
1	VSS1	—	GND connection terminal. (Digital ground terminal).
2	Xtal IN	I	External X'tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc).
3	Xtal OUT	O	
4	CTRL1	I	Either the external clock input mode or the X'tal generator mode is selected by this selector terminal. L: X'tal generator mode, H: External clock input.
5	BLANK	O	Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset ($\overline{RST}$ terminal = L), the X'tal clock signal is output. (It is not output when reset by the reset command).
6	OSC IN	I	External coil and capacitor for the character output dot clock generator are connected to this terminal.
7	OSC OUT	O	
8	CHARA	O	The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset ($\overline{RST}$ terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command).
9	$\overline{CS}$	I	Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input).
10	SCLK	I	Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input).
11	SIN	I	Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input).
12	VDD2	—	Power supply for the composite video signal level adjustment. (Analog power supply).
13	CV OUT	O	Composite video signal output terminal.
14	NC	—	Connected to GND or not connected.
15	CV IN	I	Composite video signal input terminal.
16	VDD1	—	Power supply (+5V digital power supply).
17	SYN IN	I	Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal).
18	SEP C	—	Internal sync separator circuit bias voltage monitoring terminal.
19	SEP OUT	O	The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal).
20	SEP IN	I	The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1.
21	CTRL2	I	When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system.

Pin No.	Pin Name	I/O	Description
22	CTRL3	I	Controls whether or not to input the $\overline{\text{VSYNC}}$ signal to the SEPIN input. L: to input the $\overline{\text{VSYNC}}$ signal. H: not to input the $\overline{\text{VSYNC}}$ signal.
23	$\overline{\text{RST}}$	I	System reset input terminal. Pull-up resistor is built-in. (Hysteresis input).
24	VDD1	—	Power supply. (+5V digital power supply).

IC, µPD78016FGC

Pin No.	Pin Name	I/O	Description
1	RBPLS	O	RADIAL BALANCE PLUS.
2	AMUTE	O	AUDIO ANALOG MUTE (H=MUTE ON).
3	GFS	I	GFS.
4	XVCDMD	I	AUDIO/VIDEO CD MODE (L=VCD=SPINDLE GAIN UP).
5	MD2	O	DOUT MUTE CONT.
6	EMPH	I	EMPHASIS.
7	SQSO	I	SQDATA FROM CD.
8	SQCK	O	SQCLK TO CD.
9	VSS	—	GND.
10	SWNT	I	SW TV OUT MODE (L=NTSC).
11	SWAUTO	I	SW TV OUT MODE (L=NTSC/PAL AUTO).
12	SWPAL	I	SW TV OUT MODE (L=PAL).
13	EMERG	I	POWER EMERGENCY STOP (L*3sec=STOP).
14	NC	—	Nou used.
15	LPCSEL	I	“LPC ON/OFF (H=ON, NORMAL)”.
16	NC	—	Nou used.
17	LOCK	O	GFS (FRAME SYNC) LOCK (NO USE=H).
18	DMUTE	O	DIGITAL DATA OUT MUTE.
19	SENS	I	DSP SENS1 FROM CD.
20	XCDRST	O	CD RESET.
21	DATA	O	DATA TO CD.
22	XLAT	O	XLT TO CD.
23	CLOK	O	CLK TO CD.
24	VSS	—	GND.
25	FOK	I	FOCUS OK.
26	SENS2	I	SSP SENS2 FROM CD.
27	XBUSY	I/O	READY/BUSY I/O TO HOST OD.
28	NC	—	Nou used.
29	NC	—	
30	NC	—	
31	TST0	I/O	CHECK LAND.
32	TST1	I/O	
33	TST2	I/O	
34	TST3	I/O	
35	RESET	I	RESET.
36	HRDY	I	HRDY FROM CL680.
37	XHINT	I	HINT FROM CL680.
38	NC	—	Nou used.
39	SCOR	I	SCOR FROM CD.
40	VDD	—	5.0VDD.
41	XO	O	8.0MHz CERALOCK.

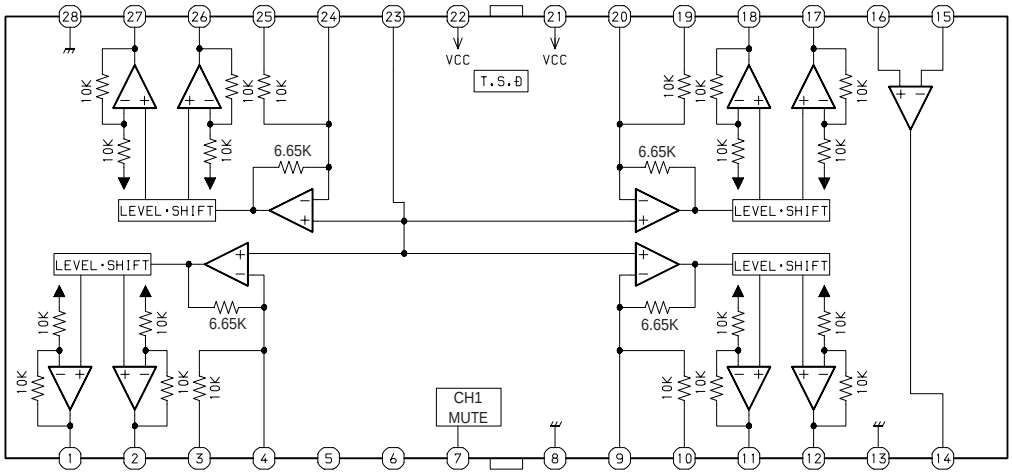
Pin No.	Pin Name	I/O	Description
42	XI	I	8.0MHz CERALOCK.
43	VSS	—	GND.
44	XT2	—	Nou used.
45	XT1	I	5.0VDD.
46	AVSS	—	GND.
47	XMPGRST	O	MPEG BLOCK IC RESET.
48	HSEL	O	ADDRESS/DATA SEL TO CL680.
49	INLSW	I	INSIDE LIMIT SW.
50	NC	—	Nou used.
51	OSDXCS	O	OSD CHIP SELECT.
52	ABSEL	I	CXA1992A/B SELECT (L=CXA1992A).
53	CLVSEL	I	CLV MODE SELECT (H=CLV-N).
54	AADSEL	I	AUTO ADJUST SELECT (H=AUTO ON).
55	AVDD	—	5.0VDD.
56	AVREF	—	
57	HDOUT	I	HD-OUT FROM CL680.
58	HDIN	O	HD-IN TO CL680.
59	HCK	O	HCK TO CL680.
60	OSDDATA	O	OSD DATA.
61	OSDCLK	O	OSD CLOCK.
62	COMMAND	I	COMMAND FROM HOST.
63	STATUS	O	STATUS TO HOST.
64	SCK	I	SCK FROM HOST.

IC, SM5878M

Pin No.	Pin Name	I/O	Description
1	MUTE	I	MODE = H: Soft mute ON/OFF terminal. (Mute at H). MODE = L: Attenuator level DOWN/UP terminal. (DOWN at H).
2	DEEM	I	De-emphasis ON/OFF terminal. (De-emphasis ON at H).
3	CKO	O	Oscillator clock output. (16.9344 MHz).
4	DVSS	—	Digital VSS terminal.
5	BCKI	I	Bit clock input terminal.
6	DI	I	Serial data input terminal.
7	DVDD	—	Digital VDD terminal.
8	LRCI	I	Sample rate clock (fs) input terminal. (H = L ch/L = R ch).
9	TSTN	I	Test input. (“H” or open during normal operation)
10	TO1	O	Test output 1. (Normally low level output).
11	AVDDL	—	Analog VDD terminal. (For L ch).
12	LO	O	Left channel analog output terminal.
13	AVSS	—	Analog VSS terminal.
14	RO	O	Right channel analog output terminal.
15	AVDDR	—	Analog VDD terminal. (For R ch).
16	MUTEO	O	Infinity zero detection output.
17	XVDD	—	X’tal system VDD terminal.
18	XTI	I	X’tal oscillator terminal. (Or external clock input terminal of 16.9344 MHz).
19	XTO	O	X’tal oscillator terminal.
20	XVSS	—	X’tal system VSS terminal.
21	DS	I	Double-speed/normal playback selection. (Double-speed at H).
22	RSTN	I	Reset terminal. (Reset at L).
23	MODE	I	Soft mute/Attenuator mode selection. (Soft mute at H).
24	ATCK	I	Attenuator level setup clock (Ignored when MODE = H).

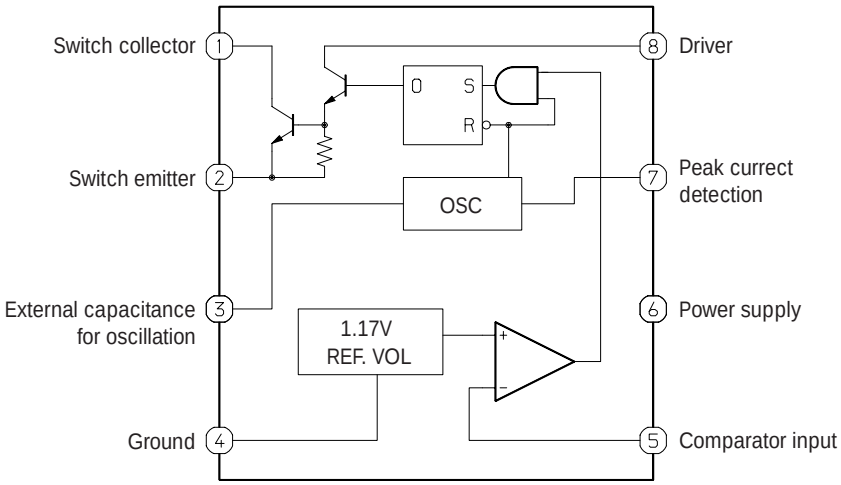
IC BLOCK DIAGRAM

IC, BA5915FP

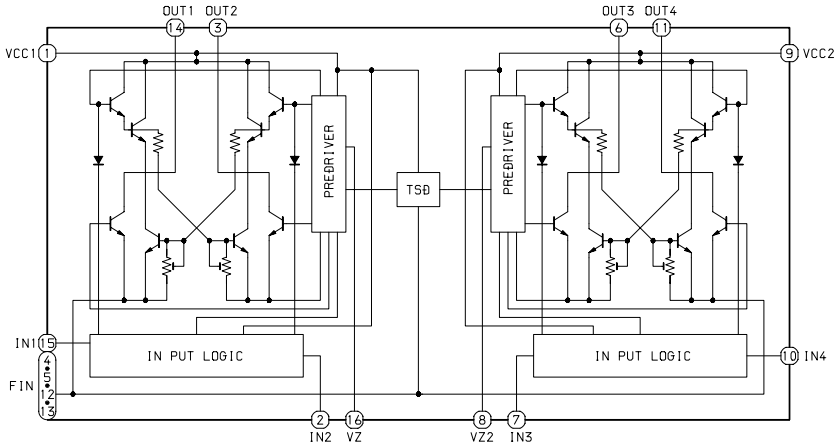


T.S.D: Thermal shut-down
Resistors are in units of Ω.

IC, M5291FP



IC, LB1644



TRUH TABLE

IN1	IN2	OUT1	OUT2	IN3	IN4	OUT3	OUT4
0	0	L	L	0	0	L	L
1	0	H	L	1	0	H	L
0	1	L	H	0	1	L	H
1	1	L	L	1	1	L	L

INPUT			OUTPUT				MODE	
IN1	IN2.3	IN4	OUT1	OUT2	OUT3	OUT4	M1	M2
0	0	0	L	L	L	L	BRAKE	BRAKE
1	0	0	H	L	L	L	FF/REW	BRAKE
0	1	1	L	H	L	L	REW/FF	BRAKE
1	1	0	L	L	H	L	BRAKE	FF/REW
0	0	1	L	L	L	H	BRAKE	REW/FF
1	1	1	L	L	L	L	BRAKE	BRAKE

TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

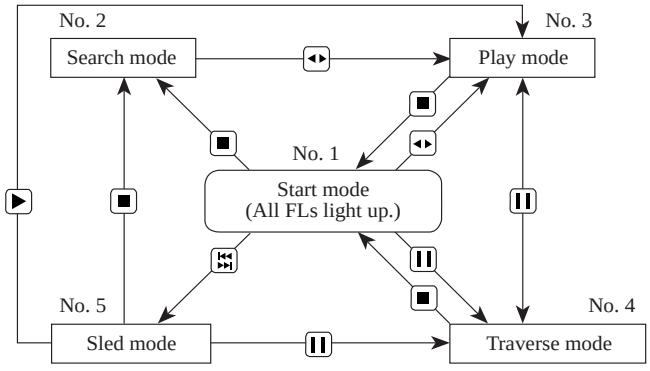
2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	TEST□□ □□ □□ Flashes repeatdly	• Test mode is activated. • CD block power is ON.	• Test mode
Search mode No.2	■ key		• Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀▶key		• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check FOK/FZC
Traverse mode No.4	⏸ key		• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

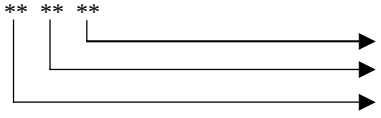
* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ⏸ status is active. If they are pressed, playback will not be possible after the ⏸ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ⏸ status, press the ■ key and return to the start mode (No.1).
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



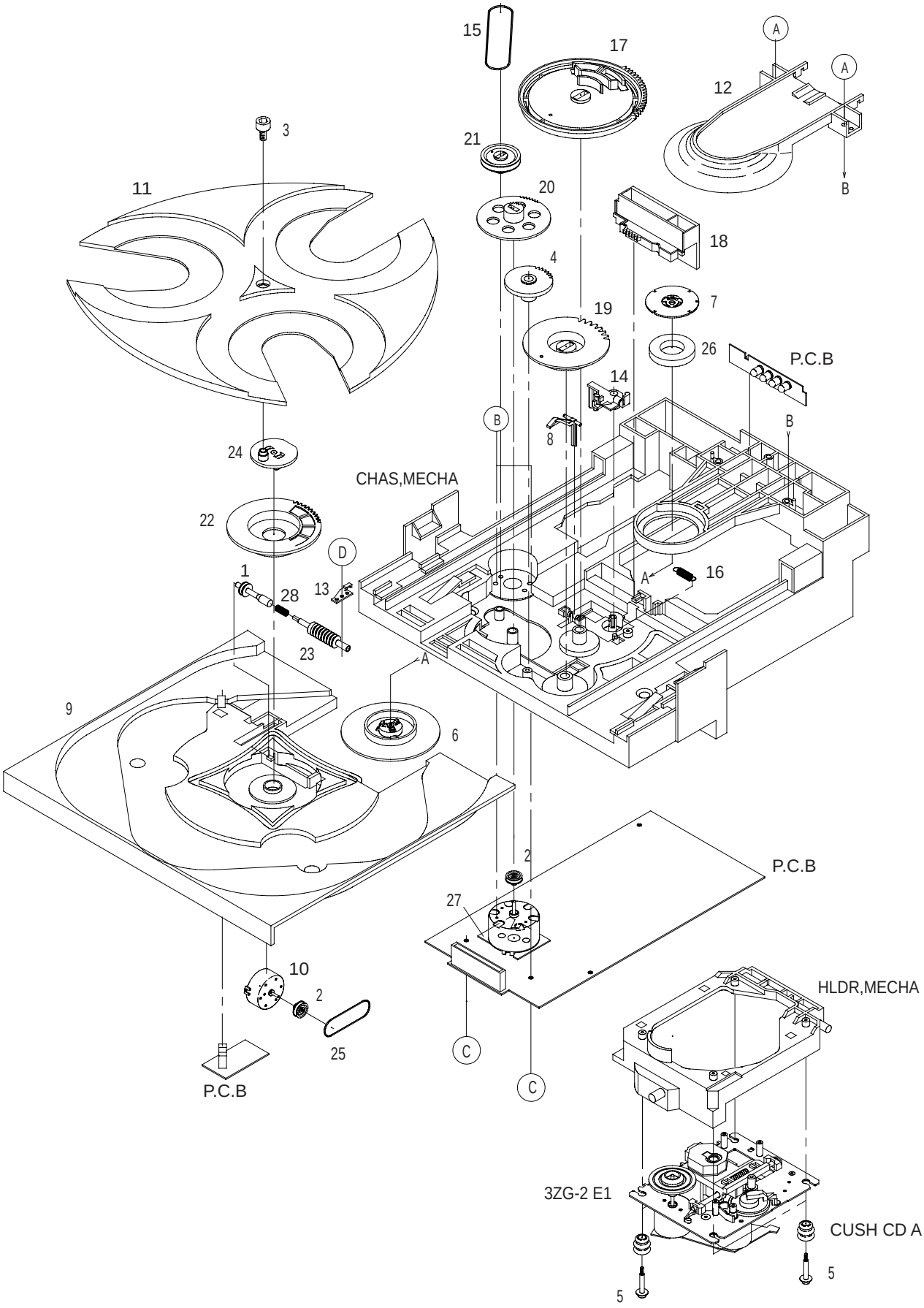
   If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

5. How to check the Automatic Adjustment Values
   The automatic adjustment values can be checked by pressing the square (■) button.
   FL display (displayed in hexadecimal values)



Note) The reference value is “20 08 08”.

MECHANICAL EXPLODED VIEW 1/1

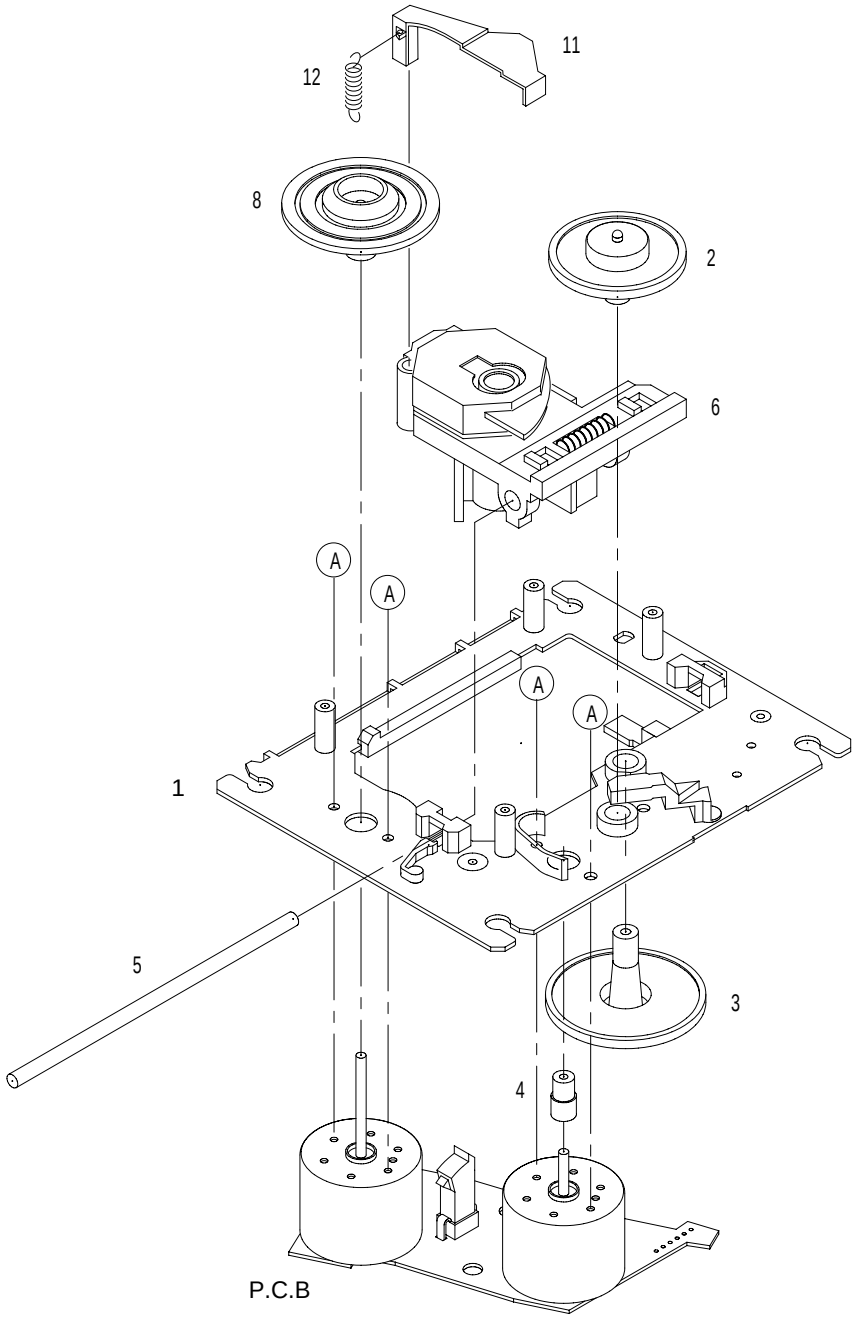


MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-239-210		PULLY,WORM N
2	84-ZG1-267-010		PULLEY,LOAD MO 8
3	81-ZG1-239-010		S-SCREW,TT
4	81-ZG1-291-110		GEAR,TRAY RELAY NO3
5	81-ZG1-271-010		S-SCREW MECH REAR
6	81-ZG1-277-310		HLDR,MAGNET N
7	81-ZG1-255-110		PLATE,MAGNET MK2
8	83-ZG3-213-010		LVR,SW
9	84-ZG1-003-310		TRAY,NO2-B
10	87-045-364-010		MOTOR(BCH3B14)
11	84-ZG1-005-210		TURNTABLE,NO1(*)
12	84-ZG1-011-010		REFLECTOR,CD
13	84-ZG1-259-010		SPR-P,WORM
14	84-ZG1-208-210		LEVER,CAM
15	84-ZG1-209-010		BELT,SQ1.8-117.7
16	84-ZG1-211-010		SPR-E CAM S
17	84-ZG1-215-410		GEAR,MAIN CAM BLU
18	84-ZG1-216-310		SLIDE,MECHA CAM YEL
19	84-ZG1-205-110		GEAR,TRAY
20	84-ZG1-206-110		GEAR,RELAY
21	84-ZG1-207-010		PULLEY,RELAY
22	84-ZG1-221-010		GEAR,MAIN TT
23	84-ZG1-238-010		GEAR,WORM N
24	84-ZG1-224-010		LEVER,TT
25	84-ZG1-225-010		BELT,SQ1.0-63.3
26	83-ZG3-602-010		RING,MAG
27	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
28	84-ZG1-248-010		SPR-C,WORM
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-251-070-410		U+2.6-3
C	87-342-036-210		UT2+2-8
D	87-067-981-010		BVT2+3-6 BLK

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 E1)



CD MECHANISM PARTS LIST 1/1 (3ZG-2 E1)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-110		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-240-010		SHAFT,SLIDE 3
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-233-010		TURN TABLE,A5
11	83-ZG2-245-110		LEVER,SHUTTER
12	83-ZG2-250-010		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

CX-NAK572
CX-NK270
CX-NK290
CX-NK370
CX-NK570
CX-NK765
CX-NK770
CX-NK970
DX-SNKH100

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G一　一	
G一　一	
G一　一	

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